

SERVICE MANUAL



LW/MW/FM STEREO DOUBLE CASSETTE RECEIVER

TAC-M82
(EUROPE/SPAIN)



132 344 42 (Black)
132 344 47 (White)

SPECIFICATIONS

- Amplifier Section**
Minimum RMS sine wave power per channel
at 6 ohms within rated bandwidth 35 Watts
at no more than rated THD 35 Watts
Power Bandwidth 60 Hz – 20 kHz
Total Harmonic Distortion 0.9 %
- FM Tuner Section**
Usable Sensitivity (Mono) 3.3µV/15.1 dBf
Signal-to-Noise Ratio (Mono) 65 dB
Stereo Separation at 1 kHz 43 dB
- MW Tuner Section**
Usable Sensitivity 600µV/m
Signal-to-Noise Ratio 55 dB

- LW Tuner Section**
Usable Sensitivity 2300µV/m
Signal-to-Noise Ratio 50 dB
- Cassette Section**
Frequency Response 50 Hz – 14 kHz
Wow and Flutter (WRMS) 0.15 %
Channel Separation 40 dB
- General**
Power Requirements AC 220V
(50 Hz) 190 Watts
Dimensions (WxHxD) 335 x 245 x 300 mm
Weight (approx.) 7.5 kg

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— Specifications and design are subject to change without notice. —

CAUTION ON RF ADJUSTMENT

This model uses a microprocessor for memory preset control for the various bands. This function has been used to preset frequency points for the different bands to permit adjustment and make it possible to check the function of the microprocessor. To use this supplemental function, ground initialize test point TP7 for 1 second before beginning adjustment. The following table shows the initially preset frequencies.

Band	Memory					
	1	2	3	4	5	6
FM-1	87.5MHz	108MHz	88MHz	98MHz	108MHz	90MHz
MW/LW	603kHz	1404kHz	999kHz	160kHz	350kHz	250kHz

FM TUNER ALIGNMENT

FM ALIGNMENT – FUNCTION switch to FM/STEREO position.

Note: It is almost unnecessary to adjust coil in Front End as perfectly adjusted

ITEM	GENERATOR	DIAL SETTING	INDICATOR	PROCEDURE
1. FM IF S-CURVE ALIGNMENT	Connect 10.7MHz Radio IF Generator output to TP1 and ground lead to chassis. Use 5pF capacitor in series with generator output lead.	Position of non-interference Minimum Frequency.	Connect Radio IF. Genescope input to TP5 and ground lead to chassis.	Adjust FM DET 1st Coil (T106) and FM DET 2nd Coil (T107) so that S-wave form becomes symmetrical.
2. DETECTOR ADJUSTMENT (MINIMUM T.H.D.)	Connect FM RF signal generator through FM Dummy Antenna to FM Antenna terminals. Set generator output level to 60dB μ V at 98MHz \pm 2kHz.	Set Preset STATION button to "4" position. Set to 98MHz. Set MODE switch to MONO.	Connect DC Voltmeter across TP3 and TP4.	Adjust FM DET 1st Coil (T106) until DC Voltmeter reads 0V \pm 50mV.
			Harmonic Distortion Analyzer to SPEAKER OUT.	Adjust FM DET 2nd Coil (T107) for minimum gain and best linearity.
Note: Repeat Step 1 (FM DET 1st Coil T106) and 2 (FM DET 2nd Coil T107) until optimum alignment is reached.				
3. FM MUTING LEVEL ADJUSTMENT	Same as above. Adjust attenuator output level for 18dB μ V.	Same as above.	Front panel TUNED Display Indicator.	Set MODE Switch to STEREO. Adjust P101 until the TUNED Indicator partly light up.
Note: Decrease the output level of ATT and confirm that the wave form disappears. Increase the output level of ATT again and confirm that the input level meets the specifications sufficiently when the wave form has appeared.				
4. FM STEREO SIGNAL SEPARATION CONTROL	Connect FM Stereo SG to FM Antenna terminals. 19kHz signal ON. Main channel, sub channel signal ON. Apply 1000Hz signal from LEFT channel.		Connect AC VTVM and Oscilloscope to SPEAKER OUT.	Adjust P103 for minimum output.
	Same as above for RIGHT channel.		Connect AC VTVM and Oscilloscope to SPEAKER OUT.	

Use a screwdriver with plastic grip for all adjustments.

**MW/LW Frequency Cover Range
Tuning Voltage Value at TP2**

(Table 1)

	153kHz	360kHz	522kHz	1611kHz
Minimum	0.7V	6.0V	1.0V	7.0V
Typical	0.93V	6.7V	1.3V	8.03V
Maximum	1.2V	8.0V	1.4V	9.0V

AM TUNER ALIGNMENT

AM ALIGNMENT — FUNCTION switch to MW or LW position.
Maintain generator output as low as possible for suitable indication.

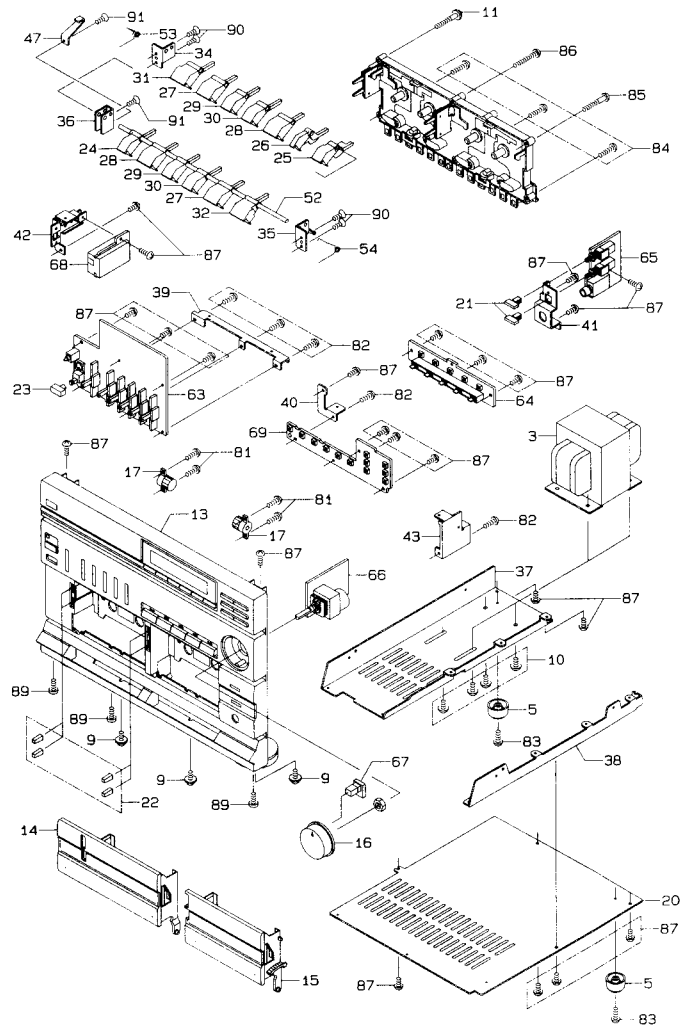
Note: Perform this alignment after FM Tuner Alignment.

ITEM	GENERATOR	DIAL SETTING	INDICATOR	PROCEDURE
1. AM IF ALIGNMENT	Connect 450kHz Radio IF Genescope output to Pin W1 and W2 Adjust output level to 70dB μ V.	Position of non-interference Minimum Frequency.	Connect Radio IF Genescope input to TP6 and ground lead to chassis.	Adjust AM IFT (T105) for maximum gain and best symmetry. Keep signal low enough for noise on response.
2. MW RF FREQUENCY COVER ALIGNMENT (1611kHz)	Do not connect generator.	Front Panel DIGITAL Counter Display Set to 1611kHz.	Connect DC Voltmeter to TP2 and ground lead to chassis.	Check DC Voltmeter for Indication 7.0V ~ 9.0V.
3. (522kHz)	Same as above.	DIGITAL Counter Display Set to 522kHz.	Same as above.	Check DC Voltmeter for Indication 1.0V ~ 1.4V.
Note: Repeat the adjustments in items 2 and 3. Then, confirm that each voltage becomes 1.3V to 8.03V at receiving frequency of 522kHz to 1611kHz. (See Table 1)				
4. LW RF FREQUENCY COVER ALIGNMENT (360kHz)	Do not connect generator.	Front Panel DIGITAL Counter Display Set to 360kHz.	Connect DC Voltmeter to TP2 and ground lead to chassis.	Check DC Voltmeter for Indication 6.0V ~ 8.0V.
5. (153kHz)	Same as above.	DIGITAL Counter Display Set to 153kHz.	Same as above.	Check DC Voltmeter for Indication 0.7V ~ 1.2V.
Note: Repeat the adjustments in Items 4 and 5. Then, confirm that each voltage becomes 0.93V to 6.7V at receiving frequency of 153kHz to 360kHz. (See Table 1)				
6. MW RF TRACKING ALIGNMENT (603kHz)	Connect Standard Loop Antenna to output terminal of AM RF Signal Generator. Place Loop Antenna 60cm away from Loop antenna (Unit). Generator Setting to 603kHz or 1404kHz. Modulate with 400Hz (30 % modulation).	Set Preset STATION button to "1" position. Set to 603kHz.	Connect AC VTVM and Oscilloscope to SPEAKER OUT.	Adjust MW ANT Coil (T101) for maximum gain output.
7. (1404kHz)		Change Preset STATION button to "2" position. Set to 1404kHz.	Same as above.	Adjust MW ANT Trimmer (TC101) for maximum gain output.
Note: Repeat the adjustments in Items 6 and 7. Then, confirm there is no tracking error.				
8. LW RF TRACKING ALIGNMENT (160kHz)	Change generator setting to 160kHz.	Set Preset STATION button to "4" position. Set to 160kHz.	Connect AC VTVM and Oscilloscope to TUNER OUT.	Adjust LW ANT Coil (T102) for maximum gain output.
9. (350kHz)	Change generator setting to 350kHz.	Change Preset STATION button to "5" position. Set to 350kHz.	Same as above.	Adjust LW ANT Trimmer (TC102) for maximum gain output.
Note: Repeat the adjustments in Items 8 and 9. Then, confirm there is no tracking error.				
10. AM AUTO STOP SENSITIVITY ADJUSTMENT	Change generator setting to 999kHz and output level to 60dB μ V/m.	Set Preset STATION button to "3" position. Set to 999kHz.	Front Panel TUNED Indicator Display.	Adjust P102 until the Indicator partly light up.

Use a screwdriver with plastic grip for all adjustments.

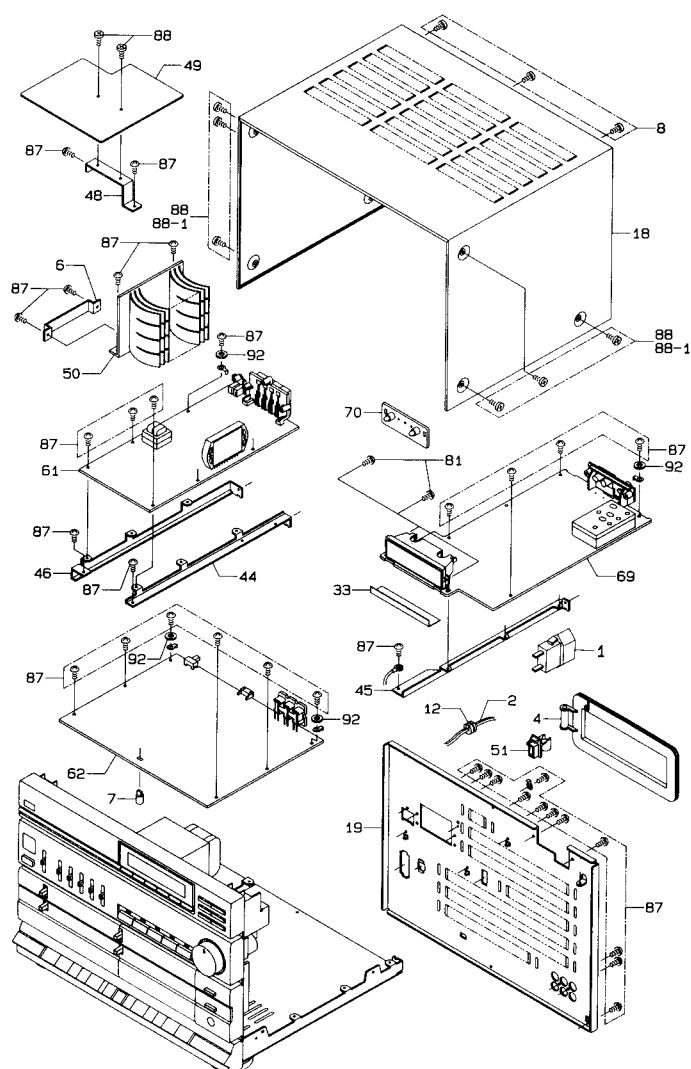
CABINET & CHASSIS PARTS LIST / EXPLODED VIEW

Ref. No.	Part No.	Description	Q'ty
PACKAGE			
	620 057 8370	Bag Polyethylene-Exp.	1
	620 059 7333	Patching Sheet	1
	620 062 0543	Serial No. Sheet	2
	620 187 8233	Box Corrugate-Exp. (Black)	1
	620 191 5877	Box Corrugate-Exp. (White)	1
	620 187 0381	Pad Front	1
	620 187 0398	Pad Rear	1
	620 148 5691	Poly Cover 100 x 250	1
ACCESSORIES			
	620 189 2314	REM-M82EU (Remote Control)	1
	620 017 4459	Connector 4P Assy	1
	411 123 3906	SCR TPG BIN 3X10	2
	620 038 1673	FM Antenna Assy	1
	620 057 8783	Bag Fan	1
	620 062 0543	Serial No. Sheet	1
	620 113 5312	Stand Loop Antenna	1
or	620 113 5305	Stand Antenna	1
	620 148 4571	Poly Cover	1
	620 152 2624	Certificate Card	1
	620 189 0716	Explanatory Booklet	1
CABINET			
	620 019 9490	Connector 1P Assy	1
	620 022 3492	Terminal Lug	2
	620 116 4725	Adhesive Sheet	1
	620 125 8424	Wire Band	26
	620 152 7452	Serial No. Sheet	1
	403 069 8404	CERAMIC 0.01U Z 50V	3
1	△ 620 017 1212	AC Socket	1
2	△ 620 023 7550	Power Cord	1
3	△ 620 187 4105	Power Trans	1
4	620 028 2741	AM Loop Antenna	1
5	620 047 3866	Leg	2
6	620 048 2608	Metal Mount (IC)	1
7	620 050 4409	Mount P.C.B.	1
8	620 051 1780	Screw, + M3.0X6.0	3
9	620 051 3760	Screw, Brazier Hd. Tapping-B, + M3.0X8	3
10	620 051 4149	Screw, + M4.0X8.0	4
11	620 051 4293	Screw, + M3.0X16	1
12	620 053 2136	Bushing (Power Cord)	1
13	620 186 3420	Cabinet Front Assy (Black)	1
13	620 191 5457	Cabinet Front Assy (White)	1
14	620 186 3444	Lid Cassette (Left) Assy (Black)	1
14	620 191 5464	Lid Cassette (Left) Assy (White)	1
15	620 186 3451	Lid Cassette (Right) Assy (Black)	1
15	620 191 5471	Lid Cassette (Right) Assy (White)	1
16	620 186 3475	Knob Volume Assy (Black)	1
16	620 191 5495	Knob Volume Assy (White)	1
17	620 083 1789	Gear Eject Assy	1
18	620 090 5381	Cover (Black)	1
18	620 191 5587	Cover (White)	1
19	620 186 9668	Panel Rear	1
20	620 186 3826	Plate Bottom	1
21	620 111 1910	Knob Push (Dolby, Tape Select) (Black)	2
21	620 191 5709	Knob Push (Dolby, Tape Select) (White)	1
22	620 112 0011	Knob (Mode, Direction)	4
23	620 186 4021	Knob Push (Surround) (Black)	1
23	620 191 5716	Knob Push (Surround) (White)	1
24	620 186 4038	Knob Record (Black)	1
24	620 191 5723	Knob Record (White)	1
25	620 186 4045	Knob Dubbing (Black)	1
25	620 191 5730	Knob Dubbing (White)	1
26	620 186 4052	Knob High Speed (Black)	1
26	620 191 5747	Knob High Speed (White)	1
27	620 186 4069	Knob Pause (Black)	2
27	620 191 5761	Knob Pause (White)	2
28	620 188 5972	Knob Play (Black)	2
28	620 191 5754	Knob Play (White)	2
29	620 186 4076	Knob Rewind (Black)	2
29	620 191 5778	Knob Rewind (White)	2
30	620 186 4083	Knob FF (Black)	2
30	620 191 5785	Knob FF (White)	2
31	620 186 4090	Knob STOP/Eject Left (Black)	1
31	620 191 5792	Knob STOP/Eject Left (White)	1
32	620 186 4106	Knob STOP/Eject Right (Black)	1
32	620 191 5808	Knob STOP/Eject Right (White)	1
33	620 190 0927	Shelter	1



Ref. No.	Part No.	Description	Q'ty
34	620 187 0022	Bracket Spindle (Left)	1
35	620 187 0039	Bracket Spindle (Right)	1
36	620 187 0046	Bracket Spindle (Center)	1
37	620 186 4168	Chassis (Left)	1
38	620 186 4175	Chassis (Right)	1
39	620 187 0145	Bracket (A)	1
40	620 187 0152	Bracket (B)	1
41	620 187 0169	Bracket (C)	1
42	620 189 4448	Bracket (Left)	1
43	620 187 0183	Bracket (Right)	1
44	620 187 0206	Bracket P.C.B. Power	1
45	620 187 0213	Bracket P.C.B. Tuner	1
46	620 188 5415	Bracket P.C.B. Power Left	1
47	620 189 8972	Bracket Reinforce	1
48	620 190 6615	Bracket Heat Sink	1
49	620 190 6622	Plate Shield	1
50	620 190 2150	Plate Heat Sink	1
51	620 122 2210	Holder Antenna	1
52	620 129 3500	Spindle Button	1
53	620 139 1916	Spring Lid Cassette (Left)	1
54	620 139 1923	Spring Lid Cassette (Right)	1
61	620 187 3252	Power P.C.B. Assy	1
62	620 187 3290	Main P.C.B. Assy (Dolby IC CXA1101P)	1
62	620 192 4589	Main P.C.B. Assy	1
63	620 187 3313	Graphic Equalizer P.C.B. Assy	1

CABINET & CHASSIS PARTS LIST / EXPLODED VIEW (Continued)



Ref. No.	Part No.	Description	Q'ty
64	620 187 3337	Function P.C.B. Assy	1
65	620 187 3351	Headphone P.C.B. Assy (1 ~ 4,000)	1
65	620 192 4602	Headphone P.C.B. Assy (4,001 ~)	1
66	620 187 3375	Volume P.C.B. Assy	1
67	620 187 3399	LED P.C.B. Assy	1
68	620 187 3412	REM P.C.B. Assy	1
69	620 187 9193	Tuner P.C.B. Assy	1
70	620 187 3443	Switch P.C.B. Assy	1
71	620 187 3450	Lamp P.C.B. Assy	1
81	411 020 5706	SCR S-TPG BRZ 2.6X8	6
82	411 020 5904	SCR S-TPG BRZ 3X10	5
83	411 020 6208	SCR S-TPG BRZ 3X12	2
84	411 020 6703	SCR S-TPG BRZ 3X16	3
85	411 020 7205	SCR S-TPG BRZ 3X25	1
86	411 020 7304	SCR S-TPG BRZ 3X30	1
87	411 020 8004	SCR S-TPG BRZ 3X8	58
88	411 021 5903	SCR S-TPG BIN 3X6 (Black)	8
88-1	411 098 1006	SCR S-TPG BIN 3X6 (White)	6
89	411 021 6603	SCR S-TPG BIN 3X8	3
90	411 022 2802	SCR S-TPG FLT 3X10	5
91	411 022 3205	SCR S-TPG FLT 3X14	1
92	411 008 1300	WASHER SPR 3	4

Ref. No.	Part No.	Description	Q'ty
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NOTES:

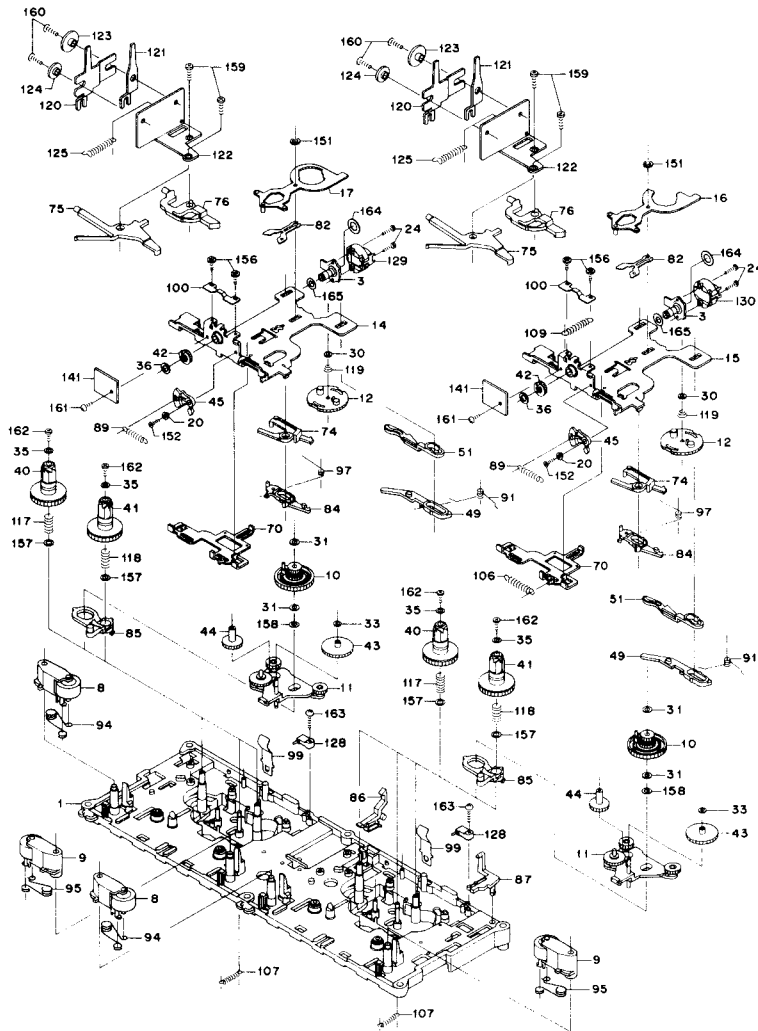
1. Parts order must contain Model Number, Part Number and Description.
2. Ordering quantity of screws and resistors must be multiple of 10 pcs.

PRODUCT SAFETY NOTICE

Each precaution in this manual should be followed during servicing. Components identified with the IEC symbol Δ in the parts list and the schematic diagram designate components in which safety can be of special significance. When replacing a component identified with Δ , use only the replacement parts designated, or parts with the same ratings of resistance, wattage or voltage that are designated in the parts list in this manual. Leakage-current or resistance measurements must be made to determine that exposed parts are acceptably insulated from the supply circuit before returning the product to the customer.

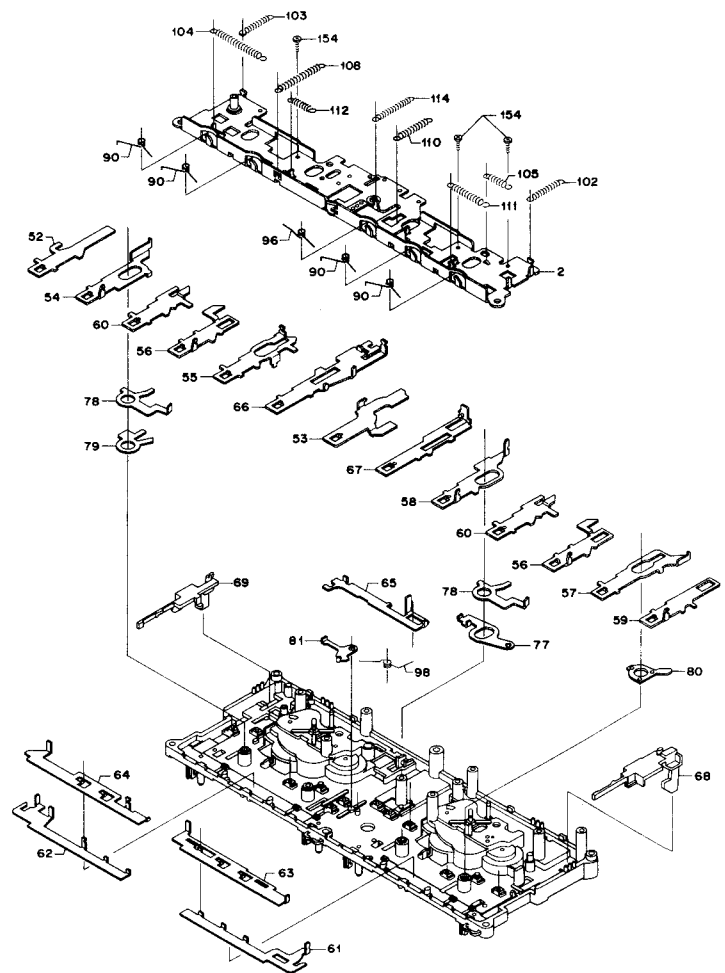
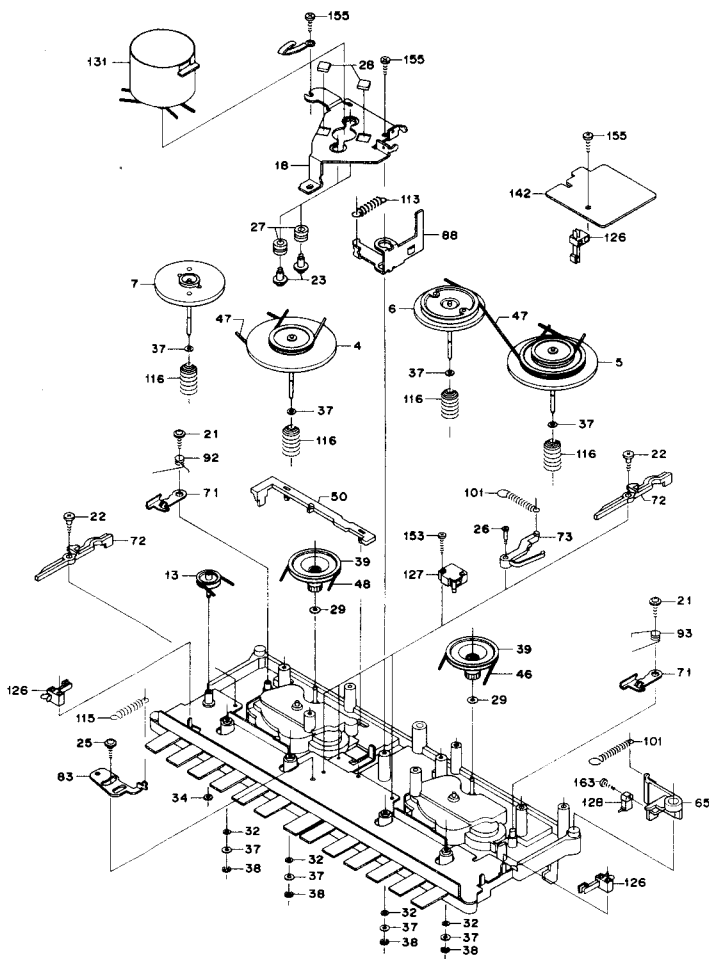
CASSETTE DECK MECHANISM PARTS LIST / EXPLODED VIEW

Ref. No.	Part No.	Description	Q'ty
MECHANISM			
	620 187 8967	Connector 2P Assy [CA1]	1
	620 187 9056	Connector 3P Assy [CA2]	1
	620 187 9063	Connector 6P Assy [CA3]	1
	620 017 5777	Connector 1P Assy [CA4]	1
	620 125 8103	Lug	1
	620 125 8424	Wire Band	1
1	620 081 6106	Chassis Assy	1
2	620 185 4534	Bracket Rod Assy	1
3	620 082 2893	Plate Head Assy	2
4	620 082 7324	Flywheel R/P Assy	1
5	620 082 7348	Flywheel PB Assy	1
6	620 082 7355	Flywheel PB Assy	1
7	620 082 7379	Flywheel R/P Assy	1
8	620 083 0607	Pinchroller Assy	2
9	620 083 0614	Pinchroller Assy	2
10	620 083 2755	Friction Assy	2
11	620 083 2816	Gear Complete	2
12	620 083 2830	Gear Power REV Assy	2
13	620 192 5920	Pulley Drive Assy	1
14	620 084 2853	Base Slide PB Assy	1
15	620 084 2860	Base Slide R/P Assy	1
16	620 085 0926	Lever Change Assy	1
17	620 085 0933	Lever Change PB Assy	1
18	620 119 2100	Bracket Motor	1
20	620 119 7532	Spacer Gear REV	2
21	620 122 7277	Screw, w/Washer, + M2.0X6.0	2
22	620 122 8397	Screw, Tapping, + M2.0X6.0	2
23	620 122 9356	Screw Washer, + M2.6X1.5	2
24	620 123 0550	Screw, Pan Hd., + M1.6X6.0	4
25	620 123 0710	Screw, + M2.0X6.5	1
26	620 123 0826	Screw M1.4 2X5	1
27	620 123 9942	Cushion Motor	2
28	620 124 5530	Cushion	2
29	620 125 3818	Washer, M2.1X4.0X0.125	2
30	620 125 2071	Washer, M1.6X4.0X0.40	2
31	620 125 2163	Washer, M2.1X5.0X0.13	4
32	620 125 3078	Washer, M2.1X3.5X0.25	4
33	620 125 3382	Washer, M1.25X4.0X0.25	2
34	620 125 3894	Washer, M1.6X3.2X0.4	1
35	620 125 4235	Washer, M3.0X4.4X0.25	4
36	620 125 3849	Washer, M4.2X7.0X0.13	2
37	620 125 4938	Washer, M2.1X4.5X0.2	8
38	620 125 6666	E Ring TE-4	4
39	620 126 3749	Pulley Drive	2
40	620 126 6382	Fix Reel Take-up	2
41	620 126 6399	Fix Reel Supply	2
42	620 127 8156	Gear Head	2
43	620 127 9283	Gear Forward Play	2
44	620 127 9344	Gear Rewind Relay	2
45	620 127 9351	Gear Reverse	2
46	620 128 6755	Belt Drive	1
47	620 128 6823	Belt Wind	2
48	620 128 6786	Belt Drive R/P	1
49	620 130 7238	Plate Auto Shut-off	2
50	620 130 7245	Plate Change Record	1
51	620 130 7252	Lever Sensor	2
52	620 130 7436	Rod Stop R/P	1
53	620 130 7450	Rod Dubbing	1
54	620 130 7474	Rod Pause R/P	1
55	620 130 7498	Rod Play R/P	1
56	620 130 7511	Rod Rewind	2
57	620 130 7535	Rod Pause PB	1
58	620 130 7559	Rod Play PB	1
59	620 130 7573	Rod Stop PB	1
60	620 130 7597	Rod F FWD	2
61	620 130 7603	Plate Switch Motor PB	1
62	620 130 7610	Plate Switch Motor R/P	1
63	620 130 7627	Plate Lock PB	1
64	620 130 7634	Plate Lock R/P	1
65	620 185 5777	Lever Switch PB	1
66	620 130 7672	Rod Record	1
67	620 130 7856	Rod Speed Switch	1
68	620 130 7863	Plate Lock Lid PB	1
69	620 130 7870	Play Lock Lid R/P	1
70	620 130 7993	Plate Change	2
71	620 131 8616	Lutch Pause	2
72	620 131 9439	Lever Auto Shut-off	2
73	620 131 9446	Lever Change Record	1



Ref. No.	Part No.	Description	Q'ty
74	620 131 9453	Lever Change Auto Shut-off	2
75	620 131 9460	Lever Change REV	2
76	620 131 9477	Lever Mode Change	2
77	620 131 9538	Lever Play	1
78	620 131 9545	Lever Cue Reverse	2
79	620 131 9552	Lever Pause R/P	1
80	620 131 9569	Lever Pause PB	1
81	620 131 9576	Lever Stopper Record	1
82	620 131 9583	Lever Change Take-up	2
83	620 131 9606	Lever Dubbing	1
84	620 132 5744	Lever Reverse	2
85	620 132 5751	Lever Arm Gear	2
86	620 136 3852	Interlock Lever	1
87	620 136 4521	Lever Reverse Record	1
88	620 136 4545	Lever R/P Switch	1
89	620 139 1749	Spring Gear REV	2
90	620 137 8979	Spring Rod	4
91	620 137 9600	Spring Lever Sensor	2
92	620 137 9617	Spring Pause Latch R	1
93	620 137 9624	Spring Pause Latch P	1
94	620 137 9631	Spring Pinch Roller REV	2
95	620 137 9648	Spring Pinch Roller FWD	2
96	620 137 9655	Spring Rod Play	1
97	620 137 9662	Spring Change ASO	2
98	620 188 0519	Spring Stopper Record	1
99	620 138 4963	Spring Cassette	2
100	620 138 6769	Spring Azimuth	2
101	620 139 1527	Spring Lever Switch R/P	2
102	620 139 1701	Spring PL Lock Lid PB	1

CASSETTE DECK MECHANISM PARTS LIST / EXPLODED VIEW (Continued)



Ref. No.	Part No.	Description	Q'ty
103	620 139 1718	Spring PL Lock Lid R/P	1
104	620 139 1725	Spring PL Motor Switch R/P	1
105	620 139 1732	Spring PL Motor Switch PB	1
106	620 139 1756	Spring Plate Change	1
107	620 139 1763	Spring Arm Gear	2
108	620 139 1770	Spring Rod Play	1
109	620 139 1787	Spring Base Slide R/P	1
110	620 139 1794	Spring Base Slide PB	1
111	620 139 1800	Spring Plate Lock PB	1
112	620 139 1817	Spring Plate Lock R/P	1
113	620 190 0163	Spring Lever Record	1
114	620 139 1831	Spring Speed Switch	1
115	620 139 1855	Spring Dubbing	1
116	620 139 4467	Spring Flywheel	4
117	620 139 4559	Spring REV Reel	2
118	620 139 4566	Spring FWD Reel	2
119	620 139 4696	Spring	2
120	620 117 6636	Metal Mount Direct	2
121	620 117 6643	Metal Mount Mode	2
122	620 117 6650	Metal Mount Levers	2
123	620 119 7648	Spacer	2
124	620 119 7662	Spacer	2
125	620 139 2036	Spring Direction	2
126	620 016 2630	Leaf Switch	3
127	620 016 7925	Lever Switch 1-2	1
128	620 016 8922	Detector Switch 1P1T	3
129	620 023 6195	PB Rotary Head	1
130	620 187 4051	R/P.E Rotary Head	1
131	620 030 4221	Motor	1
141	620 012 0821	PCB Head	2
142	620 187 3344	Mecha P.C.B. Assy	1

Ref. No.	Part No.	Description	Q'ty
151	411 015 7906	RING E 1.5	2
152	411 017 4804	SCR FLT PCS 1.7X4	2
153	411 021 0205	SCR S-TPG BIN 2X12	1
154	411 021 0809	SCR S-TPG BIN 2X6	3
155	411 021 3107	SCR S-TPG BIN 2.6X8	3
156	412 022 9808	SPECIAL SCREW	4
157	412 023 2303	SPECIAL WASHER	4
158	412 023 2402	SPECIAL WASHER	2
159	411 022 7708	SCR S-TPG PAN 2X5	4
160	411 033 9104	SCR FLT 2.6X5	4
161	411 039 0105	SCR PAN 2X3	2
162	412 025 9201	SPECIAL SCREW	4
163	411 022 8101	SCR S-TPG PAN 2X7	3
164	412 022 4506	SPECIAL WASHER	2
165	412 026 0207	SPECIAL WASHER	2

NOTES:

- Parts order must contain Model Number, Part Number and Description.
- Ordering quantity of screws and resistors must be multiple of 10 pcs.

DOUBLE CASSETTE DECK ELECTRICAL ADJUSTMENT PROCEDURES

MEASURING INSTRUMENTS REQUIRED

- Dualtrace Oscilloscope
- AC VTVM (AC voltmeter with high impedance)
- Frequency Counter
- Audio Signal Generator
- Dummy Load (6Ω 60watts resistor)
- Test Tapes
 - ‡ 3kHz Test Tape (Example: TEAC MTT-111) for Normal Tape Speed Adjustment
 - ‡ 10kHz Test Tape (Example: TEAC MTT-114) for Azimuth Adjustment
 - ‡ 400Hz Test Tape (Example: TEAC MTT-150) for Playback Sensitivity Adjustment
- Test Tapes for Recording and Playback Operations
 - ‡ Normal Tape (Example: TDK AC 223)
 - ‡ CrO₂ Tape (Example: TDK AC 512)
 - ‡ Metal Tape (Example: TDK AC 712)

NORMAL/DOUBLE TAPE SPEED ADJUSTMENT

1. Connect the Dummy load (6Ω 60watts resistor) and the frequency counter to the Speaker terminal (Left channel).
2. Short the circuit between test point TP5 and TP6 on the Main P.C.Board. (The unit will be set to the High Speed mode.)
3. Load Deck 2 with a test tape (Example: TEAC MTT-111) and set it in the playback mode.
4. Adjust potentiometer P852 on the Mecha P.C.Board, so that the reading on the frequency counter is 6000Hz ~ 6060Hz.
5. Disconnect connecting wire from test point TP5 and TP6.
6. Load Deck 2 with a test tape and Adjust potentiometer P851, so that the reading on the frequency counter is 3000Hz ~ 3030Hz.

HEAD AZIMUTH ADJUSTMENT

1. Connect the dualtrace oscilloscope and AC VTVM to the Dolby test point TP301 and TP302 (Left and Right channel) on the Main P.C.Board.

Then, set the dualtrace oscilloscope as follows:

- ‡ MODE CHOP (chopped)
- ‡ SOURCE INT (internal), CH1 or CH2
- ‡ SWEEP MODE AUTO (automatic)

NOTE:

Adjust the field on the oscilloscope with the VOLT. ADJ. and TIME ADJ.

2. Load Deck 2 with a test tape (Example: TEAC MTT-114) and set it in the forward playback mode.
3. Adjust the azimuth adjustment screw, so that the wave forms become maximum on the oscilloscope and the Right channel wave form overlaps with the Left channel one.
4. Perform the same adjustment for Deck 1.
5. After the adjustment, secure the adjusting screw with paint or glue.

PLAYBACK OUTPUT LEVEL ADJUSTMENT

1. Connect the oscilloscope and AC VTVM to the Dolby test point TP301 and TP302 (Left and Right channel) on the Main P.C.Board.
2. Load Deck 2 with a test tape (Example: TEAC MTT-150) and set it in the playback mode.
3. Adjust potentiometer P101, so that the output level becomes 548mV ± 0.5 dB : Dolby IC305 CXA-1101 (650mV ± 0.5 dB : IC305 HA12136).
4. Adjust potentiometer P102 for the Right channel by following the same procedures as described for the Left channel.

RECORDING BIAS LEVEL ADJUSTMENT

1. Connect the audio signal generator to the Left channel of the AUX input terminal, and the AC VTVM to the Dolby test point TP301 and TP302 (Left and Right channel) on the Main P.C.Board.
2. Load Deck 2 with a normal tape (Example: TDK AC223) and set it in the recording mode.
3. Function switch to the AUX position.
4. Set the Input Level ATT so that the output level becomes 30mV: IC305 CXA-1101 (36mV: IC305 HA12136) and feed the signals of 1kHz and 12.5kHz from the audio signal generator into the unit. Then, record the signals on the tape.
5. Playback the recorded signals and adjust potentiometer P301 for the Left channel, so that the difference in output of the 1kHz and 12.5kHz signals become +1, -0dB.
6. Adjust potentiometer P302 for the Right channel by following the same procedures as described for the Left channel.

RECORDING FREQUENCY CHARACTERISTIC RESPONSE ADJUSTMENT

1. Perform the same procedures as described for the RECORDING BIAS LEVEL ADJUSTMENT.
2. Then perform the recoding and playback operations using the CrO₂ tape (Example: TDK AC 512) and METAL tape (Example: TDK AC 712). After that adjust P103 and P104 until the recoding/playback frequency meets the specifications.

P.C.BOARD PART LIST

Ref. No.	Part No.	Description	Q'ty	Ref. No.	Part No.	Description	Q'ty
POWER P.C.B. ASSY							
61	620 187 3252	Power P.C.B. Assy	1	D715	407 004 9105	DIODE DSF10C-BT	1
	620 017 2738	Fuse Clip	16	D716	407 004 9105	DIODE DSF10C-BT	1
	620 017 7160	Socket 2P	1	D717	407 004 9105	DIODE DSF10C-BT	1
	620 022 2587	EC Terminal 1P	2	D718	407 005 3805	DIODE DS442-BT	1
	620 022 3508	Terminal Lug	1	D719	407 005 3805	DIODE DS442-BT	1
	620 187 4044	Push Terminal 8P	1	D720	407 008 0405	DIODE GMB01-BT	1
	620 031 4763	Wire Wrap Terminal	12	D721	407 005 3805	DIODE DS442-BT	1
	620 053 7025	Cover Safety	1	D722	407 005 3805	DIODE DS442-BT	1
	620 017 8686	Connector 1P Assy	1	C701	403 050 1308	ELECT 2.2U M 50V	1
CN701	620 187 4037	Plug 11P	1	C702	403 050 1308	ELECT 2.2U M 50V	1
CN702	620 182 9013	Plug 7P	1	C703	403 026 8201	CERAMIC 470P K 50V	1
CN703	620 189 8279	Plug 5P	1	C704	403 026 8201	CERAMIC 470P K 50V	1
CN704	620 182 8955	Plug 3P	1	C705	403 039 7901	ELECT 100U M 10V	1
C752	△ 620 006 6679	Capacitor 0.01MF400V	1	C706	403 039 7901	ELECT 100U M 10V	1
F701	△ 423 006 8700	FUSE 250VT3.15A	1	C707	403 018 8509	CERAMIC 220P K 50V	1
F702	△ 423 006 8700	FUSE 250VT3.15A	1	C708	403 018 8509	CERAMIC 220P K 50V	1
F703	△ 423 007 2103	FUSE 250V T4.0A	1	C709	403 051 3905	ELECT 47U M 50V	1
F704	△ 423 007 2103	FUSE 250V T4.0A	1	C710	403 051 3905	ELECT 47U M 50V	1
F705	△ 423 005 0507	FUSE 250V T1.0A	1	C711	403 062 9705	POLYESTER 6800P J 50V	1
F706	△ 423 005 0507	FUSE 250V T1.0A	1	C712	403 062 9705	POLYESTER 6800P J 50V	1
F707	△ 423 002 4102	FUSE 250V T0.1A	1	C713	403 057 2100	POLYESTER 0.1U J 50V	1
F708	△ 423 006 4702	FUSE 250V T2.5A	1	C714	403 057 2100	POLYESTER 0.1U J 50V	1
HS1	620 053 9012	Plate Heat Sink	2	C715	403 097 6700	ELECT 330U M 50V	1
L701	620 026 5478	RF Filter	1	C716	403 049 7304	ELECT 100U M 50V	1
or	620 026 5447	RF Filter	1	C717	403 049 5508	ELECT 10U M 50V	1
L702	620 026 5478	RF Filter	1	C718	403 049 5508	ELECT 10U M 50V	1
or	620 026 5447	RF Filter	1	C720	403 070 4709	CERAMIC 1200P K 50V	1
RY701	620 017 0406	Relay	1	C721	403 070 4709	CERAMIC 1200P K 50V	1
SF1	411 020 7700	SCR S-TPG BRZ 3X6	4	C722	403 070 4709	CERAMIC 1200P K 50V	1
T701	△ 620 187 4068	Power Trans (Sub Trans)	1	C723	403 070 4709	CERAMIC 1200P K 50V	1
IC701	409 047 0903	IC STK4152MK2	1	C724	403 043 1100	ELECT 220U M 16V	1
IC702	409 021 0301	IC LC4913	1	C725	403 047 1502	ELECT 4.7U M 25V	1
IC703	409 026 8500	IC L78M05	1	C727	404 012 7000	CERAMIC 0.01U P 500V	1
Q701	405 021 0600	TR 2SD1012-G-SPA-AC	1	C728	404 012 7000	CERAMIC 0.01U P 500V	1
or	405 021 0907	TR 2SD1012-H-SPA-AC	1	C729	404 012 7000	CERAMIC 0.01U P 500V	1
Q702	405 021 0600	TR 2SD1012-G-SPA-AC	1	C730	404 012 7000	CERAMIC 0.01U P 500V	1
or	405 021 0907	TR 2SD1012-H-SPA-AC	1	C731	404 031 3502	ELECT 4700U M 50V	1
Q703	405 019 2708	TR 2SC536-F-NP-AA	1	C732	404 031 3502	ELECT 4700U M 50V	1
or	405 019 3804	TR 2SC536-G-NP-AA	1	C733	403 045 0606	ELECT 100U M 25V	1
Q704	405 019 2708	TR 2SC536-F-NP-AA	1	C734	403 042 0302	ELECT 10U M 16V	1
or	405 019 3804	TR 2SC536-G-NP-AA	1	C735	403 045 0606	ELECT 100U M 25V	1
Q705	405 003 7702	TR 2SA1346	1	C736	403 042 0302	ELECT 10U M 16V	1
Q706	405 035 7107	TR 2SD1913-R	1	C737	404 012 7000	CERAMIC 0.01U P 500V	1
or	405 035 7206	TR 2SD1913-S	1	C738	404 012 7000	CERAMIC 0.01U P 500V	1
or	405 023 0707	TR 2SD313-E	1	C739	404 012 7000	CERAMIC 0.01U P 500V	1
or	405 023 1100	TR 2SD313-F	1	C740	404 012 7000	CERAMIC 0.01U P 500V	1
Q707	405 052 8002	TR 2SB1274-R	1	C741	403 046 0605	ELECT 2200U M 25V	1
or	405 052 8101	TR 2SB1274-S	1	C742	403 042 3600	ELECT 100U M 16V	1
Q708	405 035 7107	TR 2SD1913-R	1	C743	403 042 3600	ELECT 100U M 16V	1
or	405 035 7206	TR 2SD1913-S	1	C744	403 042 3600	ELECT 100U M 16V	1
or	405 023 0707	TR 2SD313-E	1	C745	403 042 3600	ELECT 100U M 16V	1
or	405 023 1100	TR 2SD313-F	1	C746	404 012 7000	CERAMIC 0.01U P 500V	1
Q709	405 035 7107	TR 2SD1913-R	1	C747	404 012 7000	CERAMIC 0.01U P 500V	1
or	405 035 7206	TR 2SD1913-S	1	C748	404 012 7000	CERAMIC 0.01U P 500V	1
or	405 023 0707	TR 2SD313-E	1	C749	404 012 7000	CERAMIC 0.01U P 500V	1
or	405 023 1100	TR 2SD313-F	1	C750	403 044 3004	ELECT 470U M 16V	1
Q710	405 004 4502	TR 2SA608-F-NP-AA	1	C751	403 038 7209	ELECT 220U M 6.3V	1
or	405 004 5004	TR 2SA608-G-NP	1	C755	403 069 8404	CERAMIC 0.01U Z 50V	1
Q711	405 019 2708	TR 2SC536-F-NP-AA	1	C756	403 073 1606	CERAMIC 0.033U Z 50V	1
or	405 019 3804	TR 2SC536-G-NP-AA	1	C757	403 050 1308	ELECT 2.2U M 50V	1
Q712	405 019 2708	TR 2SC536-F-NP-AA	1	C758	403 072 2703	CERAMIC 0.022U Z 50V	1
or	405 019 3804	TR 2SC536-G-NP-AA	1	C759	403 072 5407	CERAMIC 2700P K 50V	1
Q713	405 021 0600	TR 2SD1012-G-SPA-AC	1	R701	401 025 7805	CARBON 2.2K JA 1/6W	1
or	405 021 0907	TR 2SD1012-H-SPA-AC	1	R702	401 025 7805	CARBON 2.2K JA 1/6W	1
D701	407 003 8000	DIODE DBA40C-K20	1	R703	401 024 7400	CARBON 10K JA 1/6W	1
D702	407 005 3805	DIODE DS442-BT	1	R704	401 024 7400	CARBON 10K JA 1/6W	1
D703	407 005 3805	DIODE DS442-BT	1	R705	401 027 3003	CARBON 56K JA 1/6W	1
D704	407 049 7005	ZENER DIODE GZA15Y	1	R706	401 027 3003	CARBON 56K JA 1/6W	1
D705	407 049 7005	ZENER DIODE GZA15Y	1	R707	401 021 4105	CARBON 56K JA 1/4W	1
D706	407 049 6602	ZENER DIODE GZA13Y-BT	1	R708	401 021 4105	CARBON 56K JA 1/4W	1
D707	407 049 6305	ZENER DIODE GZA12Y-BT	1	R709	401 026 9600	CARBON 470 JA 1/6W	1
D708	407 004 9105	DIODE DSF10C-BT	1	R710	401 026 9600	CARBON 470 JA 1/6W	1
D709	407 004 9105	DIODE DSF10C-BT	1	R711	401 016 3809	CARBON 2.2K JA 1/4W	1
D710	407 004 9105	DIODE DSF10C-BT	1	R712	401 016 3809	CARBON 2.2K JA 1/4W	1
D711	407 004 9105	DIODE DSF10C-BT	1	R713	402 040 5906	OXIDE-MT 2.2K JB 1/2W	1
D712	407 004 9105	DIODE DSF10C-BT	1	R714	402 040 5906	OXIDE-MT 2.2K JB 1/2W	1
D713	407 004 9105	DIODE DSF10C-BT	1	R715	402 015 7706	FUSIBLE RES 100 J- 1/4W	1
D714	407 004 9105	DIODE DSF10C-BT	1	R716	402 015 7706	FUSIBLE RES 100 J- 1/4W	1
				R718	402 039 5603	OXIDE-MT 4.7K JB 1/2W	1

P.C.BOARD PART LIST (Continued)

Ref. No.	Part No.	Description	Q'ty	Ref. No.	Part No.	Description	Q'ty
R719	401 024 7400	CARBON 10K JA 1/6W	1	Q301	405 016 2206	TR 2SC2878-A	1
R720	401 024 7400	CARBON 10K JA 1/6W	1	or	405 016 2305	TR 2SC2878-B	1
R721	401 027 9005	CARBON 82K JA 1/6W	1	Q302	405 016 2206	TR 2SC2878-A	1
R722	401 027 9005	CARBON 82K JA 1/6W	1	or	405 016 2305	TR 2SC2878-B	1
R723	401 024 7400	CARBON 10K JA 1/6W	1	Q303	405 018 2600	TR 2SC3400	1
R724	401 024 7400	CARBON 10K JA 1/6W	1	Q304	405 018 2600	TR 2SC3400	1
R725	402 016 4506	FUSIBLE RES 10 J- 1/2W	1	Q305	405 018 2600	TR 2SC3400	1
R726	402 016 4506	FUSIBLE RES 10 J- 1/2W	1	Q306	405 018 2600	TR 2SC3400	1
R727	401 016 2604	CARBON 220 JA 1/4W	1	Q307	405 019 2708	TR 2SC536-F-NP-AA	1
R728	401 025 4903	CARBON 180K JA 1/6W	1	or	405 019 3804	TR 2SC536-G-NP-AA	1
R729	401 025 8208	CARBON 22K JA 1/6W	1	Q308	405 019 2708	TR 2SC536-F-NP-AA	1
R730	402 040 6200	OXIDE-MT 100 JB 1/2W	1	or	405 019 3804	TR 2SC536-G-NP-AA	1
R731	402 040 6200	OXIDE-MT 100 JB 1/2W	1	Q309	405 018 7308	TR 2SC3708-T	1
R732	402 016 5503	FUSIBLE RES 47 J- 1/2W	1	or	405 018 7209	TR 2SC3708-S	1
R733	402 040 5104	OXIDE-MT 680 JB 1/2W	1	Q310	405 018 7308	TR 2SC3708-T	1
R734	402 016 5503	FUSIBLE RES 47 J- 1/2W	1	or	405 018 7209	TR 2SC3708-S	1
R735	402 040 5104	OXIDE-MT 680 JB 1/2W	1	Q311	405 018 7308	TR 2SC3708-T	1
R736	402 034 4700	FUSIBLE RES 0.47 J- 1/2W	1	or	405 018 7209	TR 2SC3708-S	1
R737	402 040 5104	OXIDE-MT 680 JB 1/2W	1	Q312	405 018 7308	TR 2SC3708-T	1
R738	402 040 7900	FUSIBLE RES 1 JA 1/2W	1	or	405 018 7209	TR 2SC3708-S	1
R739	402 040 5104	OXIDE-MT 680 JB 1/2W	1	Q313	405 018 7308	TR 2SC3708-T	1
R740	401 016 3809	CARBON 2.2K JA 1/4W	1	or	405 018 7209	TR 2SC3708-S	1
R741	401 012 5708	CARBON 1K JA 1/4W	1	Q314	405 018 7308	TR 2SC3708-T	1
R742	401 016 4806	CARBON 22K JA 1/4W	1	or	405 018 7209	TR 2SC3708-S	1
R743	401 025 8208	CARBON 22K JA 1/6W	1	Q315	405 001 8107	TR 2SA1016K-F	1
R745	401 025 8208	CARBON 22K JA 1/6W	1	or	405 001 8206	TR 2SA1016K-G	1
R746	401 024 8001	CARBON 1M JA 1/6W	1	Q316	405 019 2708	TR 2SC536-F-NP-AA	1
R747	401 024 7707	CARBON 100K JA 1/6W	1	or	405 019 3804	TR 2SC536-G-NP-AA	1
R748	401 027 0309	CARBON 47K JA 1/6W	1	Q317	405 018 2600	TR 2SC3400	1
MAIN P.C.B. ASSY (DOLBY IC CXA1101P , 1 ~ 4,000)				Q318	405 021 0600	TR 2SD1012-G-SPA-AC	1
62	620 187 3290	Main P.C.B. Assy	1	or	405 021 0907	TR 2SD1012-H-SPA-AC	1
	620 182 8795	Pin Jack 6P ALL BK	1	Q319	405 021 0600	TR 2SD1012-G-SPA-AC	1
	620 022 3508	Terminal Lug	2	or	405 021 0907	TR 2SD1012-H-SPA-AC	1
	620 031 4763	Wire Wrap Terminal	3	Q320	405 018 0101	TR 2SC3331-T	1
CA301	620 187 9001	Connector 11P Assy	1	or	405 018 0002	TR 2SC3331-S	1
CA302	620 187 9025	Connector 3P Assy	1	Q321	405 018 0101	TR 2SC3331-T	1
CA303	620 187 8974	Connector 4P Assy	1	or	405 018 0002	TR 2SC3331-S	1
CN301	620 182 8955	Plug 3P	1	Q322	405 021 0600	TR 2SD1012-G-SPA-AC	1
CN302	620 182 8948	Plug 6P	1	or	405 021 0907	TR 2SD1012-H-SPA-AC	1
CN303	620 022 0545	Plug 2P	1	Q323	405 021 0600	TR 2SD1012-G-SPA-AC	1
CN304	620 182 8955	Plug 3P	1	or	405 021 0907	TR 2SD1012-H-SPA-AC	1
CN305	620 182 9013	Plug 7P	1	Q324	405 018 2600	TR 2SC3400	1
CN306	620 182 9006	Plug 5P	1	Q325	405 019 2708	TR 2SC536-F-NP-AA	1
CN307	620 182 9037	Plug 9P	1	or	405 019 3804	TR 2SC536-G-NP-AA	1
CN308	620 182 8955	Plug 3P	1	Q326	405 018 2600	TR 2SC3400	1
CN309	620 182 9006	Plug 5P	1	Q327	405 019 2708	TR 2SC536-F-NP-AA	1
CN310	620 021 6555	Plug 4P	1	or	405 019 3804	TR 2SC536-G-NP-AA	1
P301	620 004 6763	Semi Fixed (B-100kΩ)	1	Q328	405 019 2708	TR 2SC536-F-NP-AA	1
or	620 192 4985	Semi Fixed (B-100kΩ)	1	or	405 019 3804	TR 2SC536-G-NP-AA	1
P302	620 004 6763	Semi Fixed (B-100kΩ)	1	Q329	405 019 2708	TR 2SC536-F-NP-AA	1
or	620 192 4985	Semi Fixed (B-100kΩ)	1	or	405 019 3804	TR 2SC536-G-NP-AA	1
P303	620 006 1346	Potentiometer 220	1	Q330	405 019 2708	TR 2SC536-F-NP-AA	1
or	620 006 1988	Potentiometer (B-200Ω)	1	or	405 019 3804	TR 2SC536-G-NP-AA	1
P304	620 006 1346	Potentiometer 220	1	Q331	405 019 2708	TR 2SC536-F-NP-AA	1
or	620 006 1988	Potentiometer (B-200Ω)	1	or	405 019 3804	TR 2SC536-G-NP-AA	1
SW301	620 187 8868	Slide Switch	1	Q332	405 019 2708	TR 2SC536-F-NP-AA	1
T301	620 191 6638	Filter Dolby	1	or	405 019 3804	TR 2SC536-G-NP-AA	1
or	620 029 5864	Filter Dolby	1	Q333	405 021 0600	TR 2SD1012-G-SPA-AC	1
T302	620 191 6638	Filter Dolby	1	or	405 021 0907	TR 2SD1012-H-SPA-AC	1
or	620 029 5864	Filter Dolby	1	Q334	405 021 0600	TR 2SD1012-G-SPA-AC	1
T303	620 026 4631	Bias Trap 105 Shield	1	or	405 021 0907	TR 2SD1012-H-SPA-AC	1
T304	620 026 4631	Bias Trap 105 Shield	1	Q335	405 018 2600	TR 2SC3400	1
T305	620 026 4440	Bias Trap	1	Q336	405 019 2708	TR 2SC536-F-NP-AA	1
T306	620 026 4440	Bias Trap	1	or	405 019 3804	TR 2SC536-G-NP-AA	1
T307	620 027 1899	Coil, 6.8MH/2.2MH.	1	Q337	405 019 2708	TR 2SC536-F-NP-AA	1
T308	620 027 1899	Coil, 6.8MH/2.2MH.	1	or	405 019 3804	TR 2SC536-G-NP-AA	1
T309	620 191 6058	Bias OSC Coil	1	Q338	405 018 2600	TR 2SC3400	1
or	620 028 8989	Bias OSC Coil	1	Q339	405 018 2600	TR 2SC3400	1
IC301	409 018 4503	IC LA6458DS	1	Q340	405 018 2600	TR 2SC3400	1
IC302	409 053 0300	IC TC9152P	1	Q341	405 018 2600	TR 2SC3400	1
IC303	409 018 4503	IC LA6458DS	1	Q342	405 018 2600	TR 2SC3400	1
IC304	409 121 8702	IC LA3246	1	Q343	405 018 2600	TR 2SC3400	1
IC305	409 119 9803	IC CXA1101P	1	Q344	405 018 2600	TR 2SC3400	1
IC306	409 018 5401	IC LA6462S	1	Q345	405 019 2708	TR 2SC536-F-NP-AA	1
IC307	409 020 6601	IC LC4001B	1	or	405 019 3804	TR 2SC536-G-NP-AA	1
IC308	409 053 0201	IC TC9150P	1	Q347	405 018 7308	TR 2SC3708-T	1
IC309	409 020 9107	IC LC4069UB	1	or	405 018 7209	TR 2SC3708-S	1
IC310	409 020 6908	IC LC4011B	1	Q348	405 003 7702	TR 2SA1346	1
				Q349	405 018 2600	TR 2SC3400	1

P.C.BOARD PART LIST (Continued)

Ref. No.	Part No.	Description	Q'ty	Ref. No.	Part No.	Description	Q'ty
Q350	405 018 2600	TR 2SC3400	1	C333	403 073 8407	CERAMIC 4700P K 50V	1
Q351	405 018 2600	TR 2SC3400	1	C334	403 073 8407	CERAMIC 4700P K 50V	1
Q352	405 018 2600	TR 2SC3400	1	C335	403 042 0302	ELECT 10U M 16V	1
Q353	405 003 7702	TR 2SA1346	1	C336	403 042 0302	ELECT 10U M 16V	1
Q354	405 003 7702	TR 2SA1346	1	C337	403 049 1609	ELECT 1U M 50V	1
Q355	405 003 7702	TR 2SA1346	1	C338	403 049 1609	ELECT 1U M 50V	1
Q356	405 003 7702	TR 2SA1346	1	C339	403 044 0300	ELECT 47U M 16V	1
Q357	405 003 7702	TR 2SA1346	1	C340	403 042 9008	ELECT 22U M 16V	1
Q358	405 018 2600	TR 2SC3400	1	C341	403 031 2805	CERAMIC 680P K 50V	1
Q359	405 018 2600	TR 2SC3400	1	C342	403 031 2805	CERAMIC 680P K 50V	1
Q360	405 018 2600	TR 2SC3400	1	C343	403 020 6203	CERAMIC 270P K 50V	1
Q361	405 018 2600	TR 2SC3400	1	C344	403 020 6203	CERAMIC 270P K 50V	1
Q362	405 018 2600	TR 2SC3400	1	C345	403 047 1502	ELECT 4.7U M 25V	1
Q363	405 018 2600	TR 2SC3400	1	C346	403 047 1502	ELECT 4.7U M 25V	1
D301	407 049 5407	ZENER DIODE GZA10X-BT	1	C347	403 044 0300	ELECT 47U M 16V	1
D302	407 008 0405	DIODE GMB01-BT	1	C348	403 044 0300	ELECT 47U M 16V	1
D303	407 008 0405	DIODE GMB01-BT	1	C349	403 057 0106	POLYESTER 0.01U J 50V	1
D304	407 008 0405	DIODE GMB01-BT	1	C350	403 057 0106	POLYESTER 0.01U J 50V	1
D305	407 008 0405	DIODE GMB01-BT	1	C351	403 062 0108	POLYESTER 0.047U J 50V	1
D306	407 005 3805	DIODE DS442-BT	1	C352	403 062 0108	POLYESTER 0.047U J 50V	1
D307	407 005 3805	DIODE DS442-BT	1	C353	403 042 0302	ELECT 10U M 16V	1
D308	407 005 3805	DIODE DS442-BT	1	C354	403 042 0302	ELECT 10U M 16V	1
D309	407 005 3805	DIODE DS442-BT	1	C355	403 042 0302	ELECT 10U M 16V	1
D310	407 008 0405	DIODE GMB01-BT	1	C356	403 042 0302	ELECT 10U M 16V	1
D311	407 008 0405	DIODE GMB01-BT	1	C357	403 042 0302	ELECT 10U M 16V	1
D312	407 008 0405	DIODE GMB01-BT	1	C358	403 042 3600	ELECT 100U M 16V	1
D313	407 008 0405	DIODE GMB01-BT	1	C359	403 042 3600	ELECT 100U M 16V	1
D314	407 008 0405	DIODE GMB01-BT	1	C360	403 050 1209	ELECT 2.2U M 50V	1
D315	407 008 0405	DIODE GMB01-BT	1	C361	403 031 2805	CERAMIC 680P K 50V	1
D316	407 005 3805	DIODE DS442-BT	1	C362	403 031 2805	CERAMIC 680P K 50V	1
D317	407 005 3805	DIODE DS442-BT	1	C363	403 047 1502	ELECT 4.7U M 25V	1
D318	407 008 0405	DIODE GMB01-BT	1	C364	403 047 1502	ELECT 4.7U M 25V	1
D319	407 008 0405	DIODE GMB01-BT	1	C365	403 043 7102	ELECT 330U M 16V	1
D320	407 008 0405	DIODE GMB01-BT	1	C366	403 042 0302	ELECT 10U M 16V	1
D321	407 008 0405	DIODE GMB01-BT	1	C367	403 048 7602	ELECT 0.47U M 50V	1
D322	407 008 0405	DIODE GMB01-BT	1	C368	403 047 1502	ELECT 4.7U M 25V	1
D323	407 008 0405	DIODE GMB01-BT	1	C369	403 057 0106	POLYESTER 0.01U J 50V	1
D324	407 008 0405	DIODE GMB01-BT	1	C370	403 059 5208	POLYESTER 0.022U J 50V	1
D325	407 008 0405	DIODE GMB01-BT	1	C371	403 080 8308	POLYPRO 0.012U J 100V	1
D326	407 008 0405	DIODE GMB01-BT	1	C372	403 033 9406	CERAMIC 820P K 50V	1
D327	407 008 0405	DIODE GMB01-BT	1	C373	403 009 8105	CERAMIC 100P K 50V	1
D328	407 008 0405	DIODE GMB01-BT	1	C374	403 009 8105	CERAMIC 100P K 50V	1
D329	407 008 0405	DIODE GMB01-BT	1	C375	403 018 8509	CERAMIC 220P K 50V	1
D330	407 008 0405	DIODE GMB01-BT	1	C376	403 018 8509	CERAMIC 220P K 50V	1
D331	407 005 3805	DIODE DS442-BT	1	C377	403 018 8509	CERAMIC 220P K 50V	1
D333	407 049 5407	ZENER DIODE GZA10X-BT	1	C378	403 018 8509	CERAMIC 220P K 50V	1
D334	407 049 5407	ZENER DIODE GZA10X-BT	1	C379	403 074 2701	CERAMIC 0.047U Z 50V	1
C301	403 018 8509	CERAMIC 220P K 50V	1	C380	403 074 2701	CERAMIC 0.047U Z 50V	1
C302	403 018 8509	CERAMIC 220P K 50V	1	C381	403 047 1502	ELECT 4.7U M 25V	1
C303	403 026 8201	CERAMIC 470P K 50V	1	C382	403 047 1502	ELECT 4.7U M 25V	1
C304	403 026 8201	CERAMIC 470P K 50V	1	C383	403 009 8105	CERAMIC 100P K 50V	1
C305	403 047 1502	ELECT 4.7U M 25V	1	C384	403 009 8105	CERAMIC 100P K 50V	1
C306	403 047 1502	ELECT 4.7U M 25V	1	C385	403 042 0302	ELECT 10U M 16V	1
C307	403 018 8509	CERAMIC 220P K 50V	1	C386	403 042 0302	ELECT 10U M 16V	1
C308	403 018 8509	CERAMIC 220P K 50V	1	C387	403 060 1008	POLYESTER 2700P K 50V	1
C309	403 039 2906	ELECT 47U M 6.3V	1	C388	403 060 1008	POLYESTER 2700P K 50V	1
C310	403 039 2906	ELECT 47U M 6.3V	1	C389	403 047 1502	ELECT 4.7U M 25V	1
C311	403 018 8509	CERAMIC 220P K 50V	1	C390	403 047 1502	ELECT 4.7U M 25V	1
C312	403 018 8509	CERAMIC 220P K 50V	1	C391	403 042 3600	ELECT 100U M 16V	1
C313	403 058 9603	POLYESTER 0.018U J 50V	1	C392	403 042 3600	ELECT 100U M 16V	1
C314	403 058 9603	POLYESTER 0.018U J 50V	1	C393	403 026 8201	CERAMIC 470P K 50V	1
C315	403 061 7801	POLYESTER 4700P J 50V	1	C394	403 026 8201	CERAMIC 470P K 50V	1
C316	403 061 7801	POLYESTER 4700P J 50V	1	C395	403 049 1609	ELECT 1U M 50V	1
C317	403 049 1609	ELECT 1U M 50V	1	C396	403 049 1609	ELECT 1U M 50V	1
C318	403 049 1609	ELECT 1U M 50V	1	C397	403 067 8307	MT-COMPO 0.68U J 50V	1
C319	403 044 0300	ELECT 47U M 16V	1	C398	403 067 8307	MT-COMPO 0.68U J 50V	1
C320	403 044 0300	ELECT 47U M 16V	1	C399	403 041 5704	ELECT 470U M 10V	1
C321	403 042 3600	ELECT 100U M 16V	1	C400	403 042 0302	ELECT 10U M 16V	1
C322	403 042 3600	ELECT 100U M 16V	1	C401	403 047 1502	ELECT 4.7U M 25V	1
C323	403 048 7602	ELECT 0.47U M 50V	1	C402	403 047 1502	ELECT 4.7U M 25V	1
C324	403 074 2701	CERAMIC 0.047U Z 50V	1	C403	403 047 1502	ELECT 4.7U M 25V	1
C325	403 047 1502	ELECT 4.7U M 25V	1	C404	403 047 1502	ELECT 4.7U M 25V	1
C326	403 047 1502	ELECT 4.7U M 25V	1	C405	403 042 0302	ELECT 10U M 16V	1
C327	403 042 0302	ELECT 10U M 16V	1	C406	403 018 8509	CERAMIC 220P K 50V	1
C328	403 042 0302	ELECT 10U M 16V	1	C407	403 018 8509	CERAMIC 220P K 50V	1
C329	403 042 0302	ELECT 10U M 16V	1	C408	403 040 2704	ELECT 22U M 10V	1
C330	403 042 0302	ELECT 10U M 16V	1	C409	403 042 3600	ELECT 100U M 16V	1
C331	403 051 2007	ELECT 4.7U M 50V	1	C410	403 049 1609	ELECT 1U M 50V	1
C332	403 051 2007	ELECT 4.7U M 50V	1	C411	403 049 1609	ELECT 1U M 50V	1

P.C.BOARD PART LIST (Continued)

Ref. No.	Part No.	Description	Q'ty	Ref. No.	Part No.	Description	Q'ty		
C412	403 040 2704	ELECT	22U M 10V	1	R348	401 025 8208	CARBON	22K JA 1/6W	1
C413	403 040 2704	ELECT	22U M 10V	1	R349	401 025 7409	CARBON	220 JA 1/6W	1
C414	403 048 3109	ELECT	0.22U M 50V	1	R350	401 025 7409	CARBON	220 JA 1/6W	1
C415	403 048 3109	ELECT	0.22U M 50V	1	R351	401 024 6700	CARBON	100 JA 1/6W	1
C418	403 042 0302	ELECT	10U M 16V	1	R352	401 024 6700	CARBON	100 JA 1/6W	1
C419	403 042 0302	ELECT	10U M 16V	1	R353	401 024 7400	CARBON	10K JA 1/6W	1
C420	403 057 0106	POLYESTER	0.01U J 50V	1	R354	401 024 7400	CARBON	10K JA 1/6W	1
C421	403 057 0106	POLYESTER	0.01U J 50V	1	R355	401 026 4308	CARBON	3.3K JA 1/6W	1
C422	403 057 7204	POLYESTER	0.012U J 50V	1	R356	401 026 4308	CARBON	3.3K JA 1/6W	1
C423	403 057 7204	POLYESTER	0.012U J 50V	1	R357	401 024 7004	CARBON	1K JA 1/6W	1
C424	403 058 2901	POLYESTER	0.015U J 50V	1	R358	401 024 7004	CARBON	1K JA 1/6W	1
C425	403 058 2901	POLYESTER	0.015U J 50V	1	R359	401 025 8703	CARBON	220K JA 1/6W	1
C426	403 026 8201	CERAMIC	470P K 50V	1	R360	401 025 8703	CARBON	220K JA 1/6W	1
C427	403 026 8201	CERAMIC	470P K 50V	1	R361	401 027 3003	CARBON	56K JA 1/6W	1
C428	403 026 8201	CERAMIC	470P K 50V	1	R362	401 027 3003	CARBON	56K JA 1/6W	1
C429	403 026 8201	CERAMIC	470P K 50V	1	R363	401 022 3107	CARBON	6.8K JA 1/4W	1
C430	403 042 0302	ELECT	10U M 16V	1	R364	401 022 3107	CARBON	6.8K JA 1/4W	1
C431	403 067 8307	MT-COMPO	0.68U J 50V	1	R365	401 012 4107	CARBON	100 JA 1/4W	1
C432	403 067 8307	MT-COMPO	0.68U J 50V	1	or	401 012 4503	CARBON	100 JA 1/4W	1
C433	403 048 7602	ELECT	0.47U M 50V	1	R366	401 027 0309	CARBON	47K JA 1/6W	1
C434	403 057 0106	POLYESTER	0.01U J 50V	1	R367	401 012 4107	CARBON	100 JA 1/4W	1
C435	403 040 2704	ELECT	22U M 10V	1	or	401 012 4503	CARBON	100 JA 1/4W	1
C436	403 069 0705	CERAMIC	1000P K 50V	1	R368	401 012 7009	CARBON	10K JA 1/4W	1
C437	403 049 1609	ELECT	1U M 50V	1	R369	401 024 7400	CARBON	10K JA 1/6W	1
C438	403 069 0705	CERAMIC	1000P K 50V	1	R370	401 024 7400	CARBON	10K JA 1/6W	1
C439	403 069 0705	CERAMIC	1000P K 50V	1	R371	401 024 7707	CARBON	100K JA 1/6W	1
C440	403 069 0705	CERAMIC	1000P K 50V	1	R372	401 024 7707	CARBON	100K JA 1/6W	1
C441	403 069 0705	CERAMIC	1000P K 50V	1	R373	401 012 3407	CARBON	10 JA 1/4W	1
C442	403 067 7805	MT-COMPO	0.47U J 50V	1	R374	401 012 3407	CARBON	10 JA 1/4W	1
C443	403 018 8509	CERAMIC	220P K 50V	1	R375	401 026 9907	CARBON	4.7K JA 1/6W	1
C444	403 018 8509	CERAMIC	220P K 50V	1	R376	401 026 9907	CARBON	4.7K JA 1/6W	1
R301	401 025 7805	CARBON	2.2K JA 1/6W	1	R377	401 024 7707	CARBON	100K JA 1/6W	1
R302	401 025 7805	CARBON	2.2K JA 1/6W	1	R378	401 024 7707	CARBON	100K JA 1/6W	1
R303	401 025 0004	CARBON	120K JA 1/6W	1	R379	401 026 9907	CARBON	4.7K JA 1/6W	1
R304	401 025 0004	CARBON	120K JA 1/6W	1	R380	401 024 7707	CARBON	100K JA 1/6W	1
R305	401 024 7707	CARBON	100K JA 1/6W	1	R381	401 022 3107	CARBON	6.8K JA 1/4W	1
R306	401 024 7707	CARBON	100K JA 1/6W	1	R382	401 022 3107	CARBON	6.8K JA 1/4W	1
R307	401 026 0607	CARBON	270 JA 1/6W	1	R383	401 016 3809	CARBON	2.2K JA 1/4W	1
R308	401 026 0607	CARBON	270 JA 1/6W	1	R384	401 016 3809	CARBON	2.2K JA 1/4W	1
R309	401 025 8703	CARBON	220K JA 1/6W	1	R385	401 024 7400	CARBON	10K JA 1/6W	1
R310	401 025 8703	CARBON	220K JA 1/6W	1	R386	401 024 7400	CARBON	10K JA 1/6W	1
R311	401 025 1902	CARBON	15K JA 1/6W	1	R387	401 018 2800	CARBON	330 JA 1/4W	1
R312	401 025 1902	CARBON	15K JA 1/6W	1	R388	401 012 7009	CARBON	10K JA 1/4W	1
R313	401 024 7707	CARBON	100K JA 1/6W	1	R389	401 024 9701	CARBON	12K JA 1/6W	1
R314	401 024 7707	CARBON	100K JA 1/6W	1	R390	401 024 9701	CARBON	12K JA 1/6W	1
R315	401 012 5708	CARBON	1K JA 1/4W	1	R391	401 025 7805	CARBON	2.2K JA 1/6W	1
R316	401 024 7004	CARBON	1K JA 1/6W	1	R392	401 025 7805	CARBON	2.2K JA 1/6W	1
R317	401 016 2604	CARBON	220 JA 1/4W	1	R393	401 025 4606	CARBON	18K JA 1/6W	1
R318	401 016 2604	CARBON	220 JA 1/4W	1	R394	401 025 4606	CARBON	18K JA 1/6W	1
R319	401 024 7004	CARBON	1K JA 1/6W	1	R395	401 026 1000	CARBON	2.7K JA 1/6W	1
R320	401 024 7004	CARBON	1K JA 1/6W	1	R396	401 026 1000	CARBON	2.7K JA 1/6W	1
R321	401 024 7707	CARBON	100K JA 1/6W	1	R397	401 025 8208	CARBON	22K JA 1/6W	1
R322	401 024 7707	CARBON	100K JA 1/6W	1	R398	401 025 8208	CARBON	22K JA 1/6W	1
R323	401 025 8208	CARBON	22K JA 1/6W	1	R399	401 024 7400	CARBON	10K JA 1/6W	1
R324	401 025 8208	CARBON	22K JA 1/6W	1	R400	401 024 7400	CARBON	10K JA 1/6W	1
R325	401 027 0309	CARBON	47K JA 1/6W	1	R401	401 024 7400	CARBON	10K JA 1/6W	1
R326	401 027 0309	CARBON	47K JA 1/6W	1	R402	401 012 7009	CARBON	10K JA 1/4W	1
R327	401 012 4107	CARBON	100 JA 1/4W	1	R403	401 012 7009	CARBON	10K JA 1/4W	1
or	401 012 4503	CARBON	100 JA 1/4W	1	R404	401 024 7707	CARBON	100K JA 1/6W	1
R328	401 016 2604	CARBON	220 JA 1/4W	1	R405	401 012 7009	CARBON	10K JA 1/4W	1
R329	401 012 5708	CARBON	1K JA 1/4W	1	R406	401 024 7707	CARBON	100K JA 1/6W	1
R330	401 026 4605	CARBON	33K JA 1/6W	1	R407	401 012 7009	CARBON	10K JA 1/4W	1
R331	401 024 7707	CARBON	100K JA 1/6W	1	R408	401 024 7707	CARBON	100K JA 1/6W	1
R332	401 024 7707	CARBON	100K JA 1/6W	1	R409	401 024 7707	CARBON	100K JA 1/6W	1
R333	401 024 7400	CARBON	10K JA 1/6W	1	R410	401 024 7707	CARBON	100K JA 1/6W	1
R334	401 024 7400	CARBON	10K JA 1/6W	1	R411	401 026 7606	CARBON	390K JA 1/6W	1
R335	401 025 8208	CARBON	22K JA 1/6W	1	R412	401 026 7606	CARBON	390K JA 1/6W	1
R336	401 025 8208	CARBON	22K JA 1/6W	1	R413	401 027 8602	CARBON	8.2K JA 1/6W	1
R337	401 024 7707	CARBON	100K JA 1/6W	1	R414	401 027 8602	CARBON	8.2K JA 1/6W	1
R338	401 024 7707	CARBON	100K JA 1/6W	1	R415	401 026 4308	CARBON	3.3K JA 1/6W	1
R339	401 016 2604	CARBON	220 JA 1/4W	1	R416	401 026 4308	CARBON	3.3K JA 1/6W	1
R340	401 016 2604	CARBON	220 JA 1/4W	1	R417	401 027 5502	CARBON	6.8K JA 1/6W	1
R341	401 027 0309	CARBON	47K JA 1/6W	1	R418	401 027 5502	CARBON	6.8K JA 1/6W	1
R342	401 026 3905	CARBON	330 JA 1/6W	1	R419	401 022 1905	CARBON	680 JA 1/4W	1
R343	401 024 7707	CARBON	100K JA 1/6W	1	R420	401 012 4107	CARBON	100 JA 1/4W	1
R344	401 024 7707	CARBON	100K JA 1/6W	1	or	401 012 4503	CARBON	100 JA 1/4W	1
R345	401 013 7305	CARBON	120K JA 1/4W	1	R421	401 012 7009	CARBON	10K JA 1/4W	1
R346	401 013 7305	CARBON	120K JA 1/4W	1	R422	401 024 7400	CARBON	10K JA 1/6W	1
R347	401 025 8208	CARBON	22K JA 1/6W	1	R423	401 024 7400	CARBON	10K JA 1/6W	1

P.C.BOARD PART LIST (Continued)

Ref. No.	Part No.	Description	Q'ty	Ref. No.	Part No.	Description	Q'ty
R424	401 024 7400	CARBON 10K JA 1/6W	1	VR604	620 006 3746	Slide Volume (W-100kΩx2)	1
R425	401 026 9006	CARBON 43K JA 1/6W	1	VR605	620 006 3746	Slide Volume (W-100kΩx2)	1
R426	401 016 4806	CARBON 22K JA 1/4W	1	VR606	620 187 8837	Slide Volume 50KMNx2	1
R427	401 026 9907	CARBON 4.7K JA 1/6W	1	IC601	409 018 4503	IC LA6458DS	1
R428	401 026 9907	CARBON 4.7K JA 1/6W	1	Q601	405 019 2708	TR 2SC536-F-NP-AA	1
R429	401 027 5502	CARBON 6.8K JA 1/6W	1	or	405 019 3804	TR 2SC536-G-NP-AA	1
R430	401 027 5502	CARBON 6.8K JA 1/6W	1	Q602	405 019 2708	TR 2SC536-F-NP-AA	1
R431	401 012 7009	CARBON 10K JA 1/4W	1	or	405 019 3804	TR 2SC536-G-NP-AA	1
R432	401 012 7009	CARBON 10K JA 1/4W	1	Q603	405 019 2708	TR 2SC536-F-NP-AA	1
R433	401 015 3800	CARBON 18K JA 1/4W	1	or	405 019 3804	TR 2SC536-G-NP-AA	1
R434	401 015 3800	CARBON 18K JA 1/4W	1	Q604	405 019 2708	TR 2SC536-F-NP-AA	1
R435	401 025 4606	CARBON 18K JA 1/6W	1	or	405 019 3804	TR 2SC536-G-NP-AA	1
R436	401 025 4606	CARBON 18K JA 1/6W	1	Q605	405 019 2708	TR 2SC536-F-NP-AA	1
R437	401 026 9907	CARBON 4.7K JA 1/6W	1	or	405 019 3804	TR 2SC536-G-NP-AA	1
R438	401 026 9907	CARBON 4.7K JA 1/6W	1	Q606	405 019 2708	TR 2SC536-F-NP-AA	1
R439	401 026 7408	CARBON 39K JA 1/6W	1	or	405 019 3804	TR 2SC536-G-NP-AA	1
R440	401 026 7408	CARBON 39K JA 1/6W	1	Q607	405 019 2708	TR 2SC536-F-NP-AA	1
R441	401 027 0309	CARBON 47K JA 1/6W	1	or	405 019 3804	TR 2SC536-G-NP-AA	1
R442	401 027 3003	CARBON 56K JA 1/6W	1	Q608	405 019 2708	TR 2SC536-F-NP-AA	1
R443	401 025 8703	CARBON 220K JA 1/6W	1	or	405 019 3804	TR 2SC536-G-NP-AA	1
R444	401 025 8703	CARBON 220K JA 1/6W	1	Q609	405 019 2708	TR 2SC536-F-NP-AA	1
R445	401 026 1000	CARBON 2.7K JA 1/6W	1	or	405 019 3804	TR 2SC536-G-NP-AA	1
R446	401 026 1000	CARBON 2.7K JA 1/6W	1	Q610	405 019 2708	TR 2SC536-F-NP-AA	1
R447	401 026 7408	CARBON 39K JA 1/6W	1	or	405 019 3804	TR 2SC536-G-NP-AA	1
R448	401 026 7408	CARBON 39K JA 1/6W	1	D601	407 108 1104	LED SLC-26VR3F	1
R449	401 025 1902	CARBON 15K JA 1/6W	1	C601	403 059 0401	POLYESTER 0.018U K 50V	1
R450	401 025 1902	CARBON 15K JA 1/6W	1	C602	403 059 0401	POLYESTER 0.018U K 50V	1
R451	401 024 7707	CARBON 100K JA 1/6W	1	C603	403 050 1209	ELECT 2.2U M 50V	1
R452	401 024 7707	CARBON 100K JA 1/6W	1	C604	403 050 1209	ELECT 2.2U M 50V	1
R453	401 024 7400	CARBON 10K JA 1/6W	1	C605	403 063 6208	POLYESTER 8200P K 50V	1
R454	401 024 7400	CARBON 10K JA 1/6W	1	C606	403 063 6208	POLYESTER 8200P K 50V	1
R455	401 024 6700	CARBON 100 JA 1/6W	1	C607	403 048 7602	ELECT 0.47U M 50V	1
R456	401 024 6700	CARBON 100 JA 1/6W	1	C608	403 048 7602	ELECT 0.47U M 50V	1
R457	401 025 3807	CARBON 180 JA 1/6W	1	C609	403 061 8709	POLYESTER 4700P K 50V	1
R458	401 025 3807	CARBON 180 JA 1/6W	1	C610	403 061 8709	POLYESTER 4700P K 50V	1
R459	401 022 3107	CARBON 6.8K JA 1/4W	1	C611	403 063 8103	POLYESTER 0.082U K 50V	1
R460	401 012 4107	CARBON 100 JA 1/4W	1	C612	403 063 8103	POLYESTER 0.082U K 50V	1
or	401 012 4503	CARBON 100 JA 1/4W	1	C613	403 058 1607	POLYESTER 1500P K 50V	1
R461	401 024 9701	CARBON 12K JA 1/6W	1	C614	403 058 1607	POLYESTER 1500P K 50V	1
R462	401 024 9701	CARBON 12K JA 1/6W	1	C615	403 059 6601	POLYESTER 0.022U K 50V	1
R463	401 016 2604	CARBON 220 JA 1/4W	1	C616	403 059 6601	POLYESTER 0.022U K 50V	1
R464	401 014 2903	CARBON 150 JA 1/4W	1	C617	403 074 9007	CERAMIC 680P K 50V	1
R465	401 024 7400	CARBON 10K JA 1/6W	1	C618	403 074 9007	CERAMIC 680P K 50V	1
R466	401 019 9600	CARBON 47 JA 1/4W	1	C619	403 061 8709	POLYESTER 4700P K 50V	1
R467	401 017 7608	CARBON 3.9 JA 1/4W	1	C620	403 061 8709	POLYESTER 4700P K 50V	1
R468	401 016 4806	CARBON 22K JA 1/4W	1	C621	403 071 5903	CERAMIC 220P K 50V	1
R469	401 024 7707	CARBON 100K JA 1/6W	1	C622	403 071 5903	CERAMIC 220P K 50V	1
R470	401 024 7707	CARBON 100K JA 1/6W	1	C623	403 049 1609	ELECT 1U M 50V	1
R471	401 024 7707	CARBON 100K JA 1/6W	1	C624	403 049 1609	ELECT 1U M 50V	1
R472	401 024 7707	CARBON 100K JA 1/6W	1	C625	403 071 6207	CERAMIC 220P K 50V	1
R473	401 024 7707	CARBON 100K JA 1/6W	1	C626	403 071 6207	CERAMIC 220P K 50V	1
R474	401 024 7707	CARBON 100K JA 1/6W	1	C627	403 008 5204	CERAMIC 10P D 50V	1
R475	401 024 7707	CARBON 100K JA 1/6W	1	C628	403 008 5204	CERAMIC 10P D 50V	1
R476	401 024 7400	CARBON 10K JA 1/6W	1	C631	403 045 7100	ELECT 22U M 25V	1
R477	401 012 7009	CARBON 10K JA 1/4W	1	C632	403 045 7100	ELECT 22U M 25V	1
R478	401 012 7009	CARBON 10K JA 1/4W	1	C633	403 044 8207	ELECT 10U M 25V	1
R479	401 022 3107	CARBON 6.8K JA 1/4W	1	C634	403 044 8207	ELECT 10U M 25V	1
R480	401 016 4806	CARBON 22K JA 1/4W	1	C635	403 042 3600	ELECT 100U M 16V	1
R481	401 024 6700	CARBON 100 JA 1/6W	1	C636	403 042 3600	ELECT 100U M 16V	1
R482	401 024 6700	CARBON 100 JA 1/6W	1	R601	401 026 6609	CARBON 390 JA 1/6W	1
R483	401 024 6700	CARBON 100 JA 1/6W	1	R602	401 026 6609	CARBON 390 JA 1/6W	1
R484	401 024 6700	CARBON 100 JA 1/6W	1	R603	401 027 8602	CARBON 8.2K JA 1/6W	1
R485	401 026 4902	CARBON 330K JA 1/6W	1	R604	401 027 8602	CARBON 8.2K JA 1/6W	1
R486	401 027 6103	CARBON 680K JA 1/6W	1	R605	401 025 2305	CARBON 150K JA 1/6W	1
R487	401 027 0309	CARBON 47K JA 1/6W	1	R606	401 025 2305	CARBON 150K JA 1/6W	1
R488	401 026 7408	CARBON 39K JA 1/6W	1	R607	401 024 9305	CARBON 1.2K JA 1/6W	1
R489	401 026 9907	CARBON 4.7K JA 1/6W	1	R608	401 024 9305	CARBON 1.2K JA 1/6W	1
GRAPHIC EQUALIZER P.C.B. ASSY				R609	401 026 6609	CARBON 390 JA 1/6W	1
63	620 187 3313	Graphic Equalizer P.C.B. Assy	1	R610	401 026 6609	CARBON 390 JA 1/6W	1
	620 186 4205	LED Holder	1	R611	401 027 8602	CARBON 8.2K JA 1/6W	1
CA601	620 187 8950	Connector 7P Assy	1	R612	401 027 8602	CARBON 8.2K JA 1/6W	1
CA602	620 187 9049	Connector 3P Assy	1	R613	401 024 7707	CARBON 100K JA 1/6W	1
CA603	620 187 9032	Connector 3P Assy	1	R614	401 024 7707	CARBON 100K JA 1/6W	1
SW601	620 016 4375	Push Switch 2P2T	1	R615	401 024 9305	CARBON 1.2K JA 1/6W	1
SW602	620 014 8320	Keyboard Switch	1	R616	401 024 9305	CARBON 1.2K JA 1/6W	1
VR601	620 006 3746	Slide Volume (W-100kΩx2)	1	R617	401 026 6609	CARBON 390 JA 1/6W	1
VR602	620 006 3746	Slide Volume (W-100kΩx2)	1	R618	401 026 6609	CARBON 390 JA 1/6W	1
VR603	620 006 3746	Slide Volume (W-100kΩx2)	1	R619	401 027 8602	CARBON 8.2K JA 1/6W	1
				R620	401 027 8602	CARBON 8.2K JA 1/6W	1

P.C.BOARD PART LIST (Continued)

Ref. No.	Part No.	Description	Q'ty
R621	401 026 7408	CARBON	39K JA 1/6W
R622	401 026 7408	CARBON	39K JA 1/6W
R623	401 025 1605	CARBON	1.5K JA 1/6W
R624	401 025 1605	CARBON	1.5K JA 1/6W
R625	401 026 6609	CARBON	390 JA 1/6W
R626	401 026 6609	CARBON	390 JA 1/6W
R627	401 027 8602	CARBON	8.2K JA 1/6W
R628	401 027 8602	CARBON	8.2K JA 1/6W
R629	401 026 4605	CARBON	33K JA 1/6W
R630	401 026 4605	CARBON	33K JA 1/6W
R631	401 025 1605	CARBON	1.5K JA 1/6W
R632	401 025 1605	CARBON	1.5K JA 1/6W
R633	401 026 6609	CARBON	390 JA 1/6W
R634	401 026 6609	CARBON	390 JA 1/6W
R635	401 027 8602	CARBON	8.2K JA 1/6W
R636	401 027 8602	CARBON	8.2K JA 1/6W
R637	401 025 8208	CARBON	22K JA 1/6W
R638	401 025 8208	CARBON	22K JA 1/6W
R639	401 025 1605	CARBON	1.5K JA 1/6W
R640	401 025 1605	CARBON	1.5K JA 1/6W
R641	401 026 9907	CARBON	4.7K JA 1/6W
R642	401 026 9907	CARBON	4.7K JA 1/6W
R643	401 024 7707	CARBON	100K JA 1/6W
R644	401 024 7707	CARBON	100K JA 1/6W
R645	401 024 7707	CARBON	100K JA 1/6W
R646	401 024 7707	CARBON	100K JA 1/6W
R647	401 026 9907	CARBON	4.7K JA 1/6W
R648	401 026 9907	CARBON	4.7K JA 1/6W
R649	401 024 7707	CARBON	100K JA 1/6W
R650	401 024 7707	CARBON	100K JA 1/6W
R653	401 024 7004	CARBON	1K JA 1/6W
R654	401 024 7004	CARBON	1K JA 1/6W
R655	401 012 4107	CARBON	100 JA 1/4W
or	401 012 4503	CARBON	100 JA 1/4W
R656	401 012 4107	CARBON	100 JA 1/4W
or	401 012 4503	CARBON	100 JA 1/4W
R657	401 024 7004	CARBON	1K JA 1/6W

FUNCTION P.C.B. ASSY

FUNCTION P.C.B. Assy		Function P.C.B. Assy	
64	620 187 3337	Function P.C.B. Assy	1
	620 186 4199	LED Holder	1
CA551	620 188 5538	Connector 7P Assy	1
SW551	620 015 1917	Keyboard Switch 6 mm (Tape)	1
SW552	620 015 1917	Keyboard Switch 6 mm (Tuner)	1
SW553	620 015 1917	Keyboard Switch 6 mm (CD)	1
SW554	620 015 1917	Keyboard Switch 6 mm (AUX)	1
SW555	620 015 1917	Keyboard Switch 6 mm (Phono)	1
D551	407 108 1203	LED SLB-72VR3HLF (Tape)	1
D552	407 108 1203	LED SLB-72VR3HLF (Tuner)	1
D553	407 108 1203	LED SLB-72VR3HLF (CD)	1
D554	407 108 1203	LED SLB-72VR3HLF (AUX)	1
D555	407 108 1203	LED SLB-72VR3HLF (Phono)	1
R551	401 025 7805	CARBON 2 2K JA 1/6W	1

HEADPHONE P.C.B. ASSY (1 ~ 4,000)

65	620 187 3351	Headphone P.C.B. Assy	1
	620 017 3322	Jack 7P Black 6.43	1
CA901	620 187 8929	Connector 5P Assy	1
CA902	620 187 8936	Connector 5P Assy	1
SW901	620 016 6935	Push Switch 2P2T	1
SW902	620 016 6935	Push Switch 2P2T	1
C901	403 018 8509	CERAMIC 220P K 50V	1
C902	403 018 8509	CERAMIC 220P K 50V	1
R901	402 040 4909	OXIDE-MT 270 JB 1/2W	1
R902	402 040 4909	OXIDE-MT 270 JB 1/2W	1
R903	402 040 5005	OXIDE-MT 150 JB 1/2W	1
R904	402 040 5005	OXIDE-MT 150 JB 1/2W	1

HEADPHONE P.C.B. ASSY (4,001 ~)

65	620 192 4602	Headphone P.C.B. Assy	1
	620 017 3322	Jack 7P Black 6.43	1
CA901	620 187 8929	Connector 5P Assy	1
CA902	620 187 8936	Connector 5P Assy	1
SW901	620 016 6935	Push Switch 2P2T	1
SW902	620 016 6935	Push Switch 2P2T	1
C901	403 018 8509	CERAMIC 220P K 50V	1
C902	403 018 8509	CERAMIC 220P K 50V	1
R901	402 040 4909	OXIDE-MT 270 JB 1/2W	1
R902	402 040 4909	OXIDE-MT 270 JB 1/2W	1

Ref. No.	Part No.	Description	Q'ty
R903	402 040 5005	OXIDE-MT 150 JB 1/2W	1
R904	402 040 5005	OXIDE-MT 150 JB 1/2W	1
VOLUME P.C.B. ASSY			
66	620 187 3375	Volume P.C.B. Assy	1
	620 031 4763	Wire Wrap Terminal	2
CA951	620 187 9018	Connector 3P Assy	1
CA952	620 187 8912	Connector 5P Assy	1
CN951	620 187 7021	Plug 3P	1
VR951	620 188 5774	Motor Volume (B-20kqx2)	1
IC951	409 114 4803	IC LB1641	1
D951	407 050 3706	ZENER DIODE GZA4.7Y-BT	1
C951	403 057 0908	POLYESTER 0.01U K 50V	1
C952	403 057 3602	POLYESTER 0.1U K 50V	1
R951	402 016 4506	FUSIBLE RES 10 J- 1/2W	1
R952	401 013 5301	CARBON 1.2K JA 1/4W	1
R953	401 025 7805	CARBON 2.2K JA 1/6W	1
R954	401 025 7805	CARBON 2.2K JA 1/6W	1

LED P.C.B. ASSY

67	620 187 3399	LED P.C.B. Assy	1
	620 051 9748	Spacer LED	1
D981	407 062 9307	LED SLB-55VR3	1

REMOCON P.C.B. ASSY

	68	620 187 3412	Remocon P.C.B. Assy				1
		620 187 0220	Cover Shield				1
		620 190 0538	Cover Shield (Bottom)				1
CA801		620 187 8905	Connector 3P Assy				1
T801		620 191 6065	Coil 38kHz				1
or		620 029 1576	Coil 38kHz				1
IC801		409 072 8004	IC UPC1473HA				1
Q801		405 019 2708	TR 2SC536-F-NP				1
D801		407 065 0905	PHOTO DIODE SPS-501C-1				1
C801		403 039 3200	ELECT	47U	M	6.3V	1
C802		403 042 0807	ELECT	10U	M	16V	1
C803		403 067 7201	MT-COMPO	0.033U	J	50V	1
C804		403 040 3008	ELECT	22U	M	10V	1
C805		403 042 0807	ELECT	10U	M	16V	1
R801		401 024 6700	CARBON	100	JA	1/6W	1
R802		401 024 7004	CARBON	1K	JA	1/6W	1
R803		401 027 0309	CARBON	47K	JA	1/6W	1
R804		401 025 7102	CARBON	22	JA	1/6W	1
R805		401 024 7707	CARBON	100K	JA	1/6W	1
R806		401 024 7400	CARBON	10K	JA	1/6W	1

TUNER P.C.B. ASSY

69	620 187 9193	Tuner P.C.B. Assy	1
	620 080 3595	FM Frontend P.C.B. Assy	1

(Component parts used in Front End are not serviceable and available.)

	620 017 0734	Protector ICP-5	1
	620 017 2738	Fuse Clip	2
	620 022 2921	ANT Terminal 3P	1
	620 022 3492	Terminal Lug	1
	620 022 3508	Terminal Lug	1
	△ 423 005 0507	FUSE 250V T1.0A	1
	411 020 8004	SCR S-TPG BRZ 3X8	1
	620 031 4763	Wire Wrap Terminal	11
	620 053 8848	Plate Heat Sink	1
	620 053 9821	Reflector	1
	620 191 0414	Filter	1
	620 190 0521	Cover Shield	1
	620 189 5872	Plate Sever	1
	620 055 2592	Jumper	1
CN101	620 182 8955	Plug 3P	1
CN102	620 020 3753	Socket Jumper 7P	1
CN103	620 182 8993	Plug 4P	1
F101	620 026 9353	FTZ Antenna Filter	1
F103	620 014 5664	Ceramic Filter	1
F104	620 014 5664	Ceramic Filter	1
F105	620 014 5862	Ceramic Filter 450K	1
F106	620 026 4396	Anti Birdie Filter	1
F107	620 026 4754	Low Pass Filter	1
or	620 192 3377	Low Pass Filter	1
F108	620 026 4754	Low Pass Filter	1

P.C.BOARD PART LIST (Continued)

Ref. No.	Part No.	Description	Q'ty	Ref. No.	Part No.	Description	Q'ty
or	620 192 3377	Low Pass Filter	1	If necessary, replace both Diode D101, D102 (SVC321) together with new ones which have the equivalent characteristics.			
LCD1	620 189 2062	LCD, FTD6410C	1				
L101	620 026 5522	Choke Coil 470μH	1	D101	407 000 4708	VARACTOR DI SVC321C-2	1
P101	620 006 1353	Potentiometer (B-100kΩ)	1	or	407 000 4807	VARACTOR DI SVC321D-2	1
P102	620 006 1377	Potentiometer (B-10kΩ)	1	D102	407 000 4708	VARACTOR DI SVC321C-2	1
P103	620 006 1353	Potentiometer (B-100kΩ)	1	or	407 000 4807	VARACTOR DI SVC321D-2	1
TC101	620 006 9724	Trimmer Condenser	1	D103	407 008 0405	DIODE GMB01-BT	1
TC102	620 007 0614	Trimmer 20PF	1	D104	407 005 3805	DIODE DS442-BT	1
T101	620 028 1348	MW Antenna Coil	1	D105	407 008 0405	DIODE GMB01-BT	1
or	620 192 7467	MW Antenna Coil	1	D106	407 012 8503	DIODE 1SS53	1
T102	620 028 1362	LW Antenna Coil	1	D107	407 008 0405	DIODE GMB01-BT	1
or	620 028 2901	LW Antenna Coil	1	D108	407 005 3805	DIODE DS442-BT	1
T103	620 192 7474	OSC Coil MW	1	D109	407 012 8503	DIODE 1SS53	1
or	620 028 7784	OSC Coil MW	1	D110	407 004 9105	DIODE DSF10C-BT	1
or	620 028 7760	OSC Coil MW	1	D111	407 004 9105	DIODE DSF10C-BT	1
T104	620 192 7481	OSC Coil LW	1	D112	407 004 9105	DIODE DSF10C-BT	1
or	620 028 7845	OSC Coil LW	1	D113	407 004 9105	DIODE DSF10C-BT	1
or	620 028 7821	OSC Coil LW	1	D114	407 005 3805	DIODE DS442-BT	1
T105	620 027 7280	AM IFT	1	D115	407 005 3805	DIODE DS442-BT	1
or	620 027 7006	IFT AM	1	D120	407 008 0405	DIODE GMB01-BT	1
T106	620 027 7242	IFT FM DET 1st	1	D121	407 008 0405	DIODE GMB01-BT	1
or	620 192 7443	IFT FM DET 1st	1	D131	407 008 0405	DIODE GMB01-BT	1
T107	620 027 7259	IFT FM DET 2nd	1	D132	407 008 0405	DIODE GMB01-BT	1
or	620 192 7450	IFT FM DET 2nd	1	D133	407 008 0405	DIODE GMB01-BT	1
X101	620 014 6258	Ceramic OSC	1	D134	407 008 0405	DIODE GMB01-BT	1
X102	620 007 1314	Crystal 7.2MHz	1	C101	403 026 5408	CERAMIC 47P K 50V	1
or	620 007 1307	Crystal 7.2MHz	1	C102	403 023 1700	CERAMIC 33P K 50V	1
or	620 007 1321	Crystal 7.2MHz	1	C103	403 069 8404	CERAMIC 0.01U Z 50V	1
or	620 007 3226	Crystal 7.2MHz	1	C104	403 074 2701	CERAMIC 0.047U Z 50V	1
IC101	410 014 9607	IC TSE2039AF-020	1	C105	403 074 2701	CERAMIC 0.047U Z 50V	1
IC102	409 072 1005	IC TC9171P	1	C107	403 074 2701	CERAMIC 0.047U Z 50V	1
IC103	409 073 9505	IC LA1266	1	C108	403 026 5408	CERAMIC 47P K 50V	1
IC104	409 017 0803	IC LA3400	1	C109	403 074 2701	CERAMIC 0.047U Z 50V	1
IC105	409 074 0808	IC LA5667	1	C110	403 008 5204	CERAMIC 10P D 50V	1
Q101	405 027 0604	TR 2SK246-Y	1	C111	403 069 8404	CERAMIC 0.01U Z 50V	1
Q102	405 021 0907	TR 2SD1012-H-SPA-AC	1	C112	403 074 2701	CERAMIC 0.047U Z 50V	1
Q103	405 019 2708	TR 2SC536-F-NP-AA	1	C113	403 050 1209	ELECT 2.2U M 50V	1
or	405 019 3804	TR 2SC536-G-NP-AA	1	C114	403 042 0302	ELECT 10U M 16V	1
Q104	405 019 2708	TR 2SC536-F-NP-AA	1	C115	403 074 2701	CERAMIC 0.047U Z 50V	1
or	405 019 3804	TR 2SC536-G-NP-AA	1	C116	403 074 2701	CERAMIC 0.047U Z 50V	1
or	405 019 3804	TR 2SC536-G-NP-AA	1	C117	403 069 8404	CERAMIC 0.01U Z 50V	1
Q105	405 019 2708	TR 2SC536-F-NP-AA	1	C118	403 044 0300	ELECT 47U M 16V	1
or	405 019 3804	TR 2SC536-G-NP-AA	1	C119	403 069 8404	CERAMIC 0.01U Z 50V	1
Q106	405 019 2708	TR 2SC536-F-NP-AA	1	C120	403 049 1609	ELECT 1U M 50V	1
or	405 019 3804	TR 2SC536-G-NP-AA	1	C121	403 069 8404	CERAMIC 0.01U Z 50V	1
Q107	405 004 4502	TR 2SA608-F-NP-AA	1	C122	403 029 0509	CERAMIC 560P K 50V	1
or	405 004 5004	TR 2SA608-G-NP	1	C123	403 069 8404	CERAMIC 0.01U Z 50V	1
Q108	405 019 2708	TR 2SC536-F-NP-AA	1	C124	403 050 7706	ELECT 3.3U M 50V	1
or	405 019 3804	TR 2SC536-G-NP-AA	1	C125	403 069 8404	CERAMIC 0.01U Z 50V	1
Q109	405 004 4502	TR 2SA608-F-NP-AA	1	C126	403 049 1609	ELECT 1U M 50V	1
or	405 004 5004	TR 2SA608-G-NP	1	C127	403 047 1502	ELECT 4.7U M 25V	1
Q110	405 019 2708	TR 2SC536-F-NP-AA	1	C128	403 026 5408	CERAMIC 47P K 50V	1
or	405 019 3804	TR 2SC536-G-NP-AA	1	C129	403 047 1502	ELECT 4.7U M 25V	1
Q111	405 019 2708	TR 2SC536-F-NP-AA	1	C130	403 069 8404	CERAMIC 0.01U Z 50V	1
or	405 019 3804	TR 2SC536-G-NP-AA	1	C131	403 031 0306	CERAMIC 68P K 50V	1
Q112	405 004 4502	TR 2SA608-F-NP-AA	1	C132	403 018 4204	CERAMIC 22P K 50V	1
or	405 004 5004	TR 2SA608-G-NP	1	C133	403 088 4104	STYRENE 430P J 50V	1
Q113	405 021 0204	TR 2SD1012-F-SPA-AC	1	C134	403 069 8404	CERAMIC 0.01U Z 50V	1
or	405 021 0600	TR 2SD1012-G-SPA-AC	1	C135	403 074 2701	CERAMIC 0.047U Z 50V	1
Q114	405 021 0204	TR 2SD1012-F-SPA-AC	1	C136	403 088 1103	STYRENE 330P J 50V	1
or	405 021 0600	TR 2SD1012-G-SPA-AC	1	C137	403 069 8404	CERAMIC 0.01U Z 50V	1
Q115	405 085 5900	TR 2SK246-Y1	1	C138	403 074 2701	CERAMIC 0.047U Z 50V	1
or	405 085 5801	TR 2SK246-Y2	1	C139	403 057 0908	POLYESTER 0.01U K 50V	1
Q116	405 016 9502	TR 2SC3069	1	C140	403 060 8700	POLYESTER 0.033U K 50V	1
Q117	405 019 2708	TR 2SC536-F-NP-AA	1	C141	403 039 2906	ELECT 47U M 6.3V	1
or	405 019 3804	TR 2SC536-G-NP-AA	1	C142	403 061 8709	POLYESTER 4700P K 50V	1
Q118	405 004 4502	TR 2SA608-F-NP-AA	1	C143	403 023 5807	CERAMIC 330P K 50V	1
or	405 004 5004	TR 2SA608-G-NP	1	C144	403 063 0503	POLYESTER 6800P K 50V	1
Q119	405 016 0806	TR 2SC2839-E	1	C145	403 056 8608	POLYESTER 1000P K 50V	1
or	405 016 1001	TR 2SC2839-F	1	C146	403 062 0900	POLYESTER 0.047U K 50V	1
Q120	405 018 2600	TR 2SC3400	1	C147	403 042 0302	ELECT 10U M 16V	1
Q121	405 018 2600	TR 2SC3400	1	C148	403 057 0908	POLYESTER 0.01U K 50V	1
Q122	405 018 2600	TR 2SC3400	1	C149	403 050 1209	ELECT 2.2U M 50V	1
Q123	405 018 2600	TR 2SC3400	1	C150	403 042 0302	ELECT 10U M 16V	1
Q124	405 003 7702	TR 2SA1346	1	C151	403 081 8505	POLYPRO 390P J 100V	1
Q125	405 003 7702	TR 2SA1346	1	C152	403 081 8505	POLYPRO 390P J 100V	1
Q126	405 003 7702	TR 2SA1346	1	C153	403 050 7706	ELECT 3.3U M 50V	1
Q127	405 003 7702	TR 2SA1346	1				

P.C.BOARD PART LIST (Continued)

Ref. No.	Part No.	Description	Q'ty	Ref. No.	Part No.	Description	Q'ty
C154	403 050 7706	ELECT 3.3U M 50V	1	R138	401 024 7400	CARBON 10K JA 1/6W	1
C155	403 062 5608	POLYESTER 5600P K 50V	1	R139	401 012 4503	CARBON 100 JA 1/4W	1
C156	403 062 5608	POLYESTER 5600P K 50V	1	R140	401 026 9907	CARBON 4.7K JA 1/6W	1
C157	403 048 7602	ELECT 0.47U M 50V	1	R141	401 024 7004	CARBON 1K JA 1/6W	1
C158	403 049 1609	ELECT 1U M 50V	1	R142	401 024 7707	CARBON 100K JA 1/6W	1
C159	403 026 5408	CERAMIC 47P K 50V	1	R143	401 026 9907	CARBON 4.7K JA 1/6W	1
C160	403 069 8404	CERAMIC 0.01U Z 50V	1	R144	401 025 1902	CARBON 15K JA 1/6W	1
C161	403 069 8404	CERAMIC 0.01U Z 50V	1	R145	401 012 8105	CARBON 100K JA 1/4W	1
C162	403 069 8404	CERAMIC 0.01U Z 50V	1	R146	401 025 8208	CARBON 22K JA 1/6W	1
C163	403 002 2902	CERAMIC 0.01U M 25V	1	R147	401 027 2600	CARBON 5.6K JA 1/6W	1
C164	403 057 0908	POLYESTER 0.01U K 50V	1	R148	401 016 4806	CARBON 22K JA 1/4W	1
C165	403 038 2402	ELECT 100U M 6.3V	1	R149	401 012 8105	CARBON 100K JA 1/4W	1
C166	403 069 8404	CERAMIC 0.01U Z 50V	1	R150	401 016 1102	CARBON 22 JA 1/4W	1
C167	403 039 2906	ELECT 47U M 6.3V	1	R151	401 025 0905	CARBON 130K JA 1/6W	1
C168	403 069 1504	CERAMIC 1000P K 50V	1	R152	401 025 0905	CARBON 130K JA 1/6W	1
C169	403 049 1609	ELECT 1U M 50V	1	R153	401 026 4308	CARBON 3.3K JA 1/6W	1
C170	403 044 0300	ELECT 47U M 16V	1	R154	401 026 4308	CARBON 3.3K JA 1/6W	1
C171	403 042 0302	ELECT 10U M 16V	1	R155	401 018 3807	CARBON 3.3K JA 1/4W	1
C172	403 038 2402	ELECT 100U M 6.3V	1	R156	401 026 4308	CARBON 3.3K JA 1/6W	1
C173	403 022 5907	CERAMIC 33P J 50V	1	R157	401 024 7004	CARBON 1K JA 1/6W	1
or	403 017 7404	CERAMIC 22P J 50V	1	R158	401 024 7004	CARBON 1K JA 1/6W	1
C174	403 022 5907	CERAMIC 33P J 50V	1	R159	401 027 2600	CARBON 5.6K JA 1/6W	1
or	403 017 7404	CERAMIC 22P J 50V	1	R160	401 027 2600	CARBON 5.6K JA 1/6W	1
C175	403 069 8404	CERAMIC 0.01U Z 50V	1	R161	401 025 0004	CARBON 120K JA 1/6W	1
C176	403 039 7802	ELECT 100U M 10V	1	R162	401 025 0004	CARBON 120K JA 1/6W	1
C177	403 040 6603	ELECT 2200U M 10V	1	R163	401 027 5502	CARBON 6.8K JA 1/6W	1
C178	403 074 2701	CERAMIC 0.047U Z 50V	1	R164	401 025 7805	CARBON 2.2K JA 1/6W	1
C179	403 069 8404	CERAMIC 0.01U Z 50V	1	R165	401 027 5908	CARBON 68K JA 1/6W	1
C180	403 069 8404	CERAMIC 0.01U Z 50V	1	R166	401 024 7400	CARBON 10K JA 1/6W	1
C181	403 069 8404	CERAMIC 0.01U Z 50V	1	R167	401 024 7400	CARBON 10K JA 1/6W	1
C182	403 069 8404	CERAMIC 0.01U Z 50V	1	R168	401 024 7707	CARBON 100K JA 1/6W	1
C183	403 045 2808	ELECT 1000U M 25V	1	R169	401 012 8105	CARBON 100K JA 1/4W	1
C184	403 049 1609	ELECT 1U M 50V	1	R170	401 027 0309	CARBON 47K JA 1/6W	1
C185	403 040 2704	ELECT 22U M 10V	1	R171	401 024 7400	CARBON 10K JA 1/6W	1
C186	403 042 0302	ELECT 10U M 16V	1	R172	401 026 4308	CARBON 3.3K JA 1/6W	1
C201	403 009 8105	CERAMIC 100P K 50V	1	R173	401 024 7004	CARBON 1K JA 1/6W	1
C202	403 009 8105	CERAMIC 100P K 50V	1	R174	401 012 7009	CARBON 10K JA 1/4W	1
C203	403 009 8105	CERAMIC 100P K 50V	1	R175	401 024 7004	CARBON 1K JA 1/6W	1
C204	403 009 8105	CERAMIC 100P K 50V	1	R176	401 024 7004	CARBON 1K JA 1/6W	1
C205	403 009 8105	CERAMIC 100P K 50V	1	R177	401 012 5708	CARBON 1K JA 1/4W	1
C206	403 009 8105	CERAMIC 100P K 50V	1	R178	401 012 5708	CARBON 1K JA 1/4W	1
C207	403 009 8105	CERAMIC 100P K 50V	1	R179	401 017 1804	CARBON 2.7K JA 1/4W	1
C208	403 009 8105	CERAMIC 100P K 50V	1	R180	401 018 3807	CARBON 3.3K JA 1/4W	1
R101	401 009 6602	CARBON 3.3K JA 1/2W	1	R181	401 019 9600	CARBON 47 JA 1/4W	1
R103	401 016 1102	CARBON 22 JA 1/4W	1	R182	401 017 1804	CARBON 2.7K JA 1/4W	1
R104	401 024 8001	CARBON 1M JA 1/6W	1	R183	401 024 7400	CARBON 10K JA 1/6W	1
R105	401 024 7004	CARBON 1K JA 1/6W	1	R184	401 027 5205	CARBON 680 JA 1/6W	1
R106	401 024 8001	CARBON 1M JA 1/6W	1	R185	401 024 7400	CARBON 10K JA 1/6W	1
R107	401 026 6609	CARBON 390 JA 1/6W	1	R186	401 024 7004	CARBON 1K JA 1/6W	1
R108	401 026 1000	CARBON 2.7K JA 1/6W	1	R187	401 027 2600	CARBON 5.6K JA 1/6W	1
R109	401 024 7004	CARBON 1K JA 1/6W	1	R188	401 024 7400	CARBON 10K JA 1/6W	1
R110	401 024 7400	CARBON 10K JA 1/6W	1	R189	401 020 0801	CARBON 470 JA 1/4W	1
R111	401 025 7805	CARBON 2.2K JA 1/6W	1	R190	401 019 9204	CARBON 47 JA 1/4W	1
R112	401 025 8208	CARBON 22K JA 1/6W	1	R191	401 024 7004	CARBON 1K JA 1/6W	1
R113	401 016 4806	CARBON 22K JA 1/4W	1	R192	401 027 2600	CARBON 5.6K JA 1/6W	1
R114	401 027 5502	CARBON 6.8K JA 1/6W	1	R193	401 012 4503	CARBON 100 JA 1/4W	1
R115	401 026 1000	CARBON 2.7K JA 1/6W	1	R194	401 026 4605	CARBON 33K JA 1/6W	1
R116	401 024 7707	CARBON 100K JA 1/6W	1	R195	401 018 4903	CARBON 33K JA 1/4W	1
R117	401 025 8208	CARBON 22K JA 1/6W	1	R196	401 025 8703	CARBON 220K JA 1/6W	1
R118	401 027 5502	CARBON 6.8K JA 1/6W	1	R197	401 024 7707	CARBON 100K JA 1/6W	1
R119	401 027 0309	CARBON 47K JA 1/6W	1	R198	401 012 7009	CARBON 10K JA 1/4W	1
R120	401 024 7707	CARBON 100K JA 1/6W	1	R199	401 012 7009	CARBON 10K JA 1/4W	1
R121	401 012 7009	CARBON 10K JA 1/4W	1	R200	401 012 7009	CARBON 10K JA 1/4W	1
R122	401 024 7707	CARBON 100K JA 1/6W	1	R201	401 012 7009	CARBON 10K JA 1/4W	1
R123	401 025 7805	CARBON 2.2K JA 1/6W	1	R202	401 012 7009	CARBON 10K JA 1/4W	1
R124	401 018 3807	CARBON 3.3K JA 1/4W	1	R203	401 012 7009	CARBON 10K JA 1/4W	1
R125	401 027 0309	CARBON 47K JA 1/6W	1	R204	401 012 7009	CARBON 10K JA 1/4W	1
R126	401 012 8105	CARBON 100K JA 1/4W	1	R205	401 012 5708	CARBON 1K JA 1/4W	1
R127	401 016 4806	CARBON 22K JA 1/4W	1	R206	401 012 5708	CARBON 1K JA 1/4W	1
R128	401 026 9907	CARBON 4.7K JA 1/6W	1	R207	401 012 5708	CARBON 1K JA 1/4W	1
R129	401 014 4105	CARBON 1.5K JA 1/4W	1	R208	401 012 5708	CARBON 1K JA 1/4W	1
R130	401 027 9005	CARBON 82K JA 1/6W	1	R209	401 012 5708	CARBON 1K JA 1/4W	1
R131	401 026 7408	CARBON 39K JA 1/6W	1	R210	401 027 0309	CARBON 47K JA 1/6W	1
R132	401 025 8208	CARBON 22K JA 1/6W	1	R211	401 024 7707	CARBON 100K JA 1/6W	1
R133	401 024 7707	CARBON 100K JA 1/6W	1	R212	401 027 0309	CARBON 47K JA 1/6W	1
R134	401 027 0309	CARBON 47K JA 1/6W	1	R213	401 024 7004	CARBON 1K JA 1/6W	1
R135	401 012 4107	CARBON 100 JA 1/4W	1	R214	401 026 6609	CARBON 390 JA 1/6W	1
R136	401 016 1102	CARBON 22 JA 1/4W	1	R215	401 016 3809	CARBON 2.2K JA 1/4W	1
R137	401 026 4308	CARBON 3.3K JA 1/6W	1	R216	401 019 1000	CARBON 390 JA 1/4W	1

P.C.BOARD PART LIST (Continued)

Ref. No.	Part No.	Description	Q'ty
R217	401 027 5205	CARBON 680 JA 1/6W	1
R218	401 012 8105	CARBON 100K JA 1/4W	1
R219	401 012 8105	CARBON 100K JA 1/4W	1
R220	401 012 8105	CARBON 100K JA 1/4W	1
R221	401 012 8105	CARBON 100K JA 1/4W	1
R222	401 024 7400	CARBON 10K JA 1/6W	1
R223	401 024 8001	CARBON 1M JA 1/6W	1
R224	401 024 7707	CARBON 100K JA 1/6W	1
R225	401 024 7707	CARBON 100K JA 1/6W	1
SWITCH P.C.B. ASSY			
70	620 187 3443	Switch P.C.B. Assy	1
	620 187 9148	Jumper	1
SW101	620 015 1917	Keyboard Switch 6 mm	1
SW102	620 015 1917	Keyboard Switch 6 mm	1
SW103	620 015 1917	Keyboard Switch 6 mm	1
SW104	620 015 1917	Keyboard Switch 6 mm	1
SW105	620 015 1917	Keyboard Switch 6 mm	1
SW106	620 015 1917	Keyboard Switch 6 mm	1
SW107	620 015 1917	Keyboard Switch 6 mm	1
SW108	620 015 1917	Keyboard Switch 6 mm	1
SW109	620 015 1917	Keyboard Switch 6 mm	1
SW110	620 015 1917	Keyboard Switch 6 mm	1
SW111	620 015 1917	Keyboard Switch 6 mm	1
SW112	620 015 1917	Keyboard Switch 6 mm	1
LAMP P.C.B. ASSY			
71	620 187 3450	Lamp P.C.B. Assy	1
	620 030 8144	Lamp	2
	620 052 0171	Spacer	2
MECHA P.C.B. ASSY			
142	620 187 3344	Mecha P.C.B. Assy	1
CA851	620 187 8998	Connector 9P Assy	1
P851	620 004 6800	Semi Fixed (B-5k Ω)	1
R854	620 004 5339	LT Resistor 470	1
SW851	620 016 2159	Leaf Switch	1
Q851	405 019 2708	TR 2SC536-F-NP-AA	1
or	405 019 3804	TR 2SC536-G-NP-AA	1
C851	403 072 2703	CERAMIC 0.022U Z 50V	1
R851	401 025 7409	CARBON 220 JA 1/6W	1
R852	401 026 0607	CARBON 270 JA 1/6W	1
R853	401 025 8208	CARBON 22K JA 1/6W	1

NOTES:

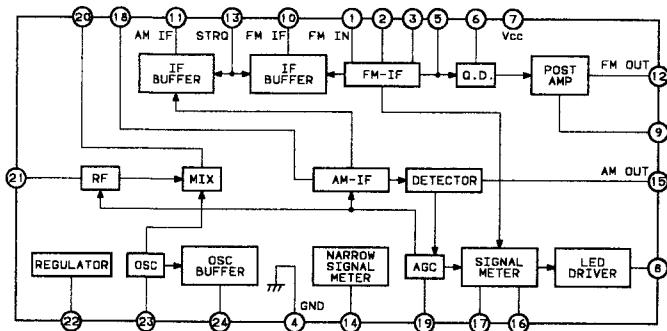
- Parts order must contain Model Number, Part Number and Description.
- Ordering quantity of screws and resistors must be multiple of 10 pcs.

PRODUCT SAFETY NOTICE

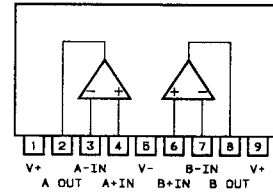
Each precaution in this manual should be followed during servicing. Components identified with the IEC symbol Δ in the parts list and the schematic diagram designate components in which safety can be of special significance. When replacing a component identified with Δ , use only the replacement parts designated, or parts with the same ratings of resistance, wattage or voltage that are designated in the parts list in this manual. Leakage-current or resistance measurements must be made to determine that exposed parts are acceptably insulated from the supply circuit before returning the product to the customer.

IC BLOCK DIAGRAM

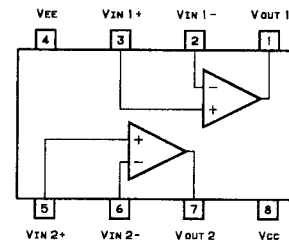
LA1266 BLOCK DIAGRAM



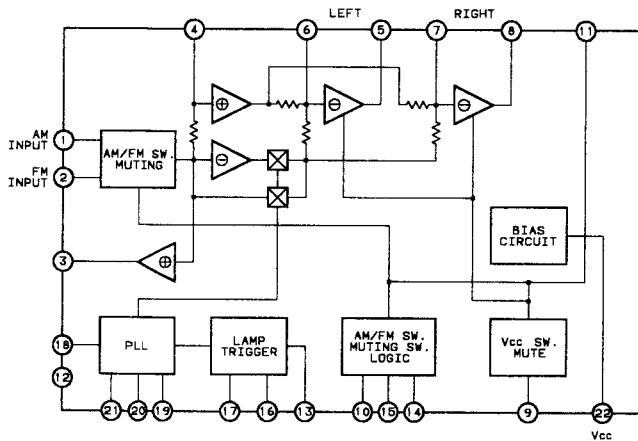
LA6462S BLOCK DIAGRAM



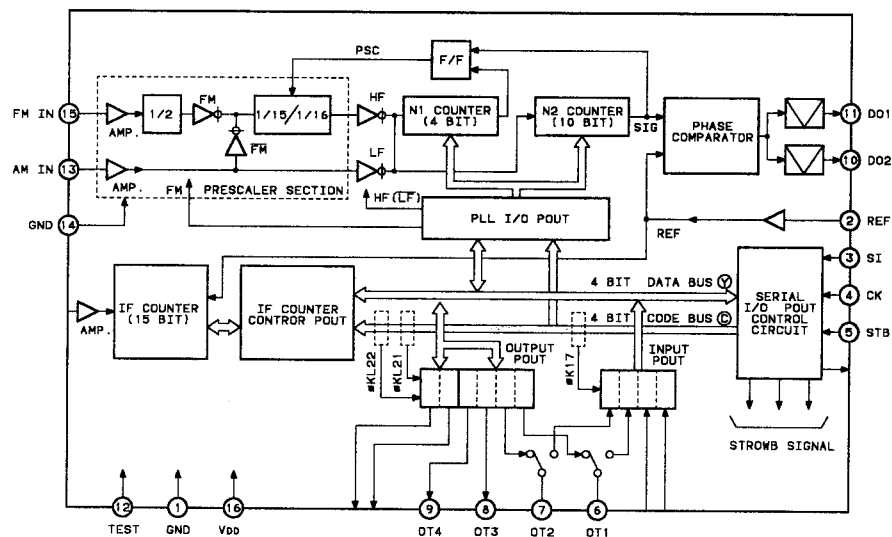
LA6458DS BLOCK DIAGRAM



LA3400 BLOCK DIAGRAM

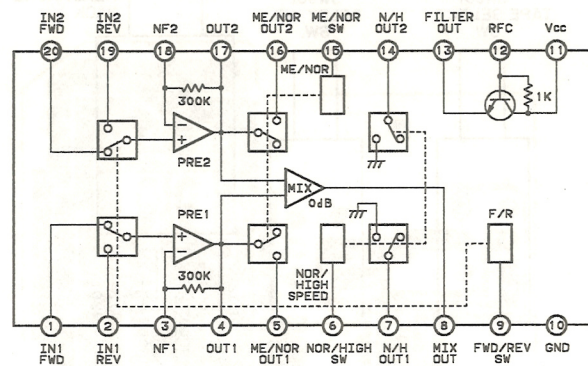


TC9171P BLOCK DIAGRAM

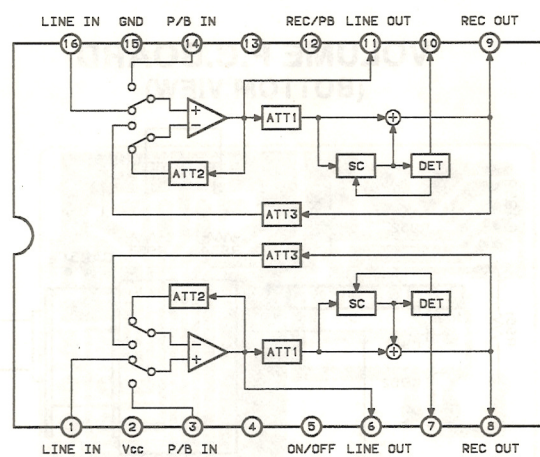


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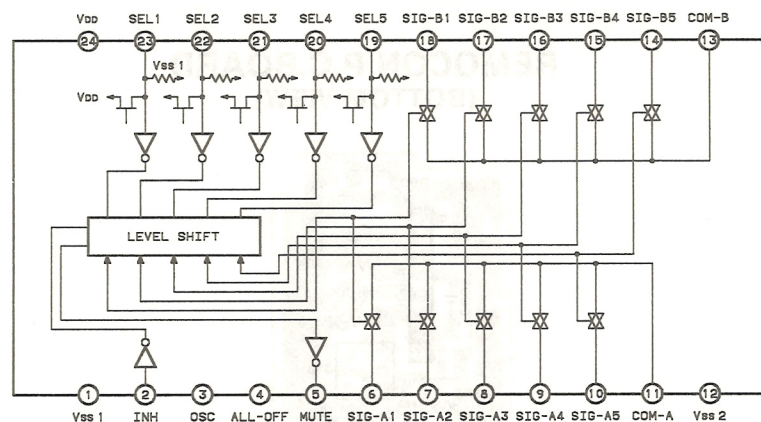
LA3246 BLOCK DIAGRAM



CXA1101P BLOCK DIAGRAM

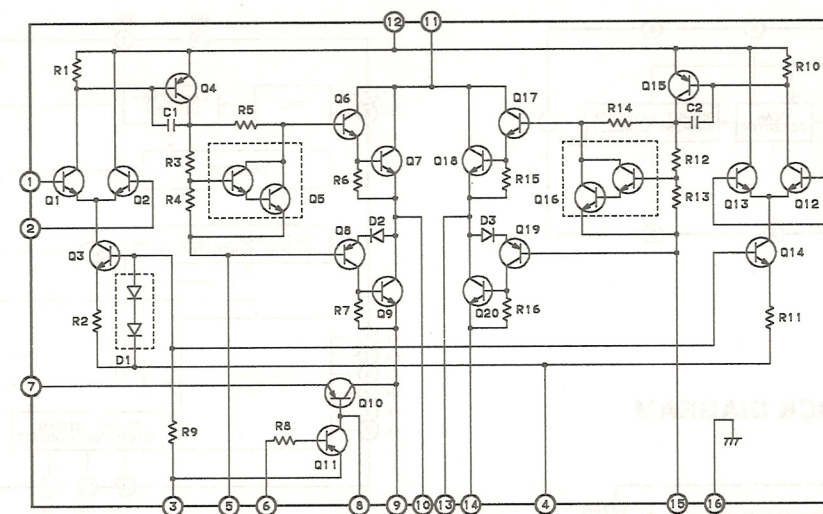


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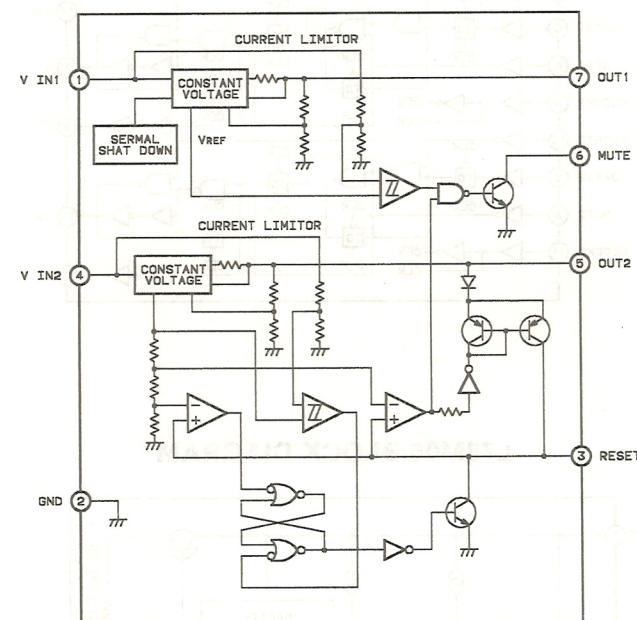


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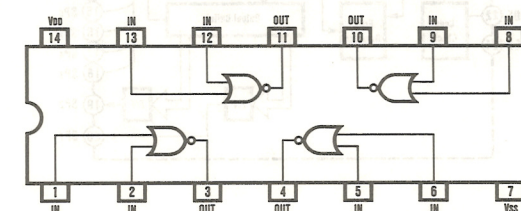
STK4152MK2 BLOCK DIAGRAM



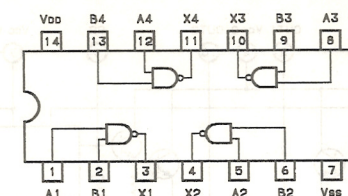
LA5667 BLOCK DIAGRAM



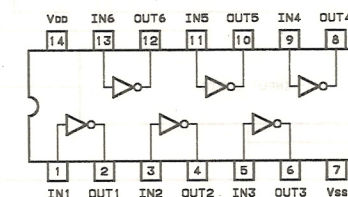
LC4001B BLOCK DIAGRAM



LC4011B BLOCK DIAGRAM

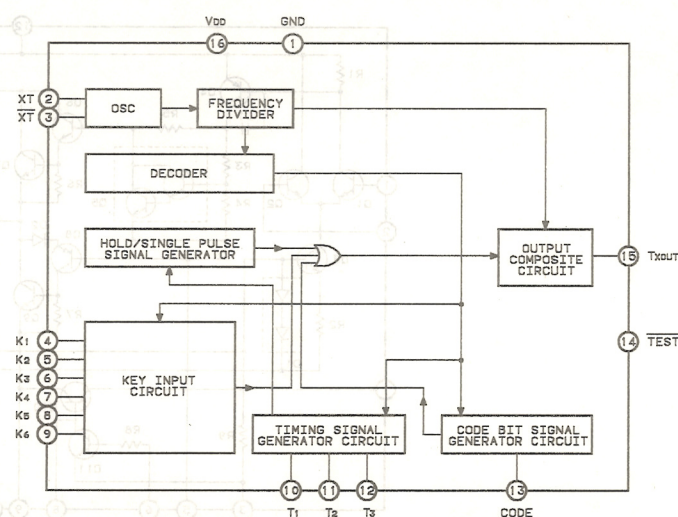
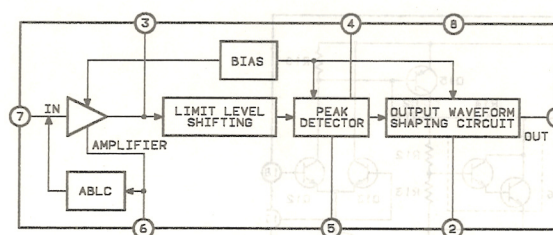


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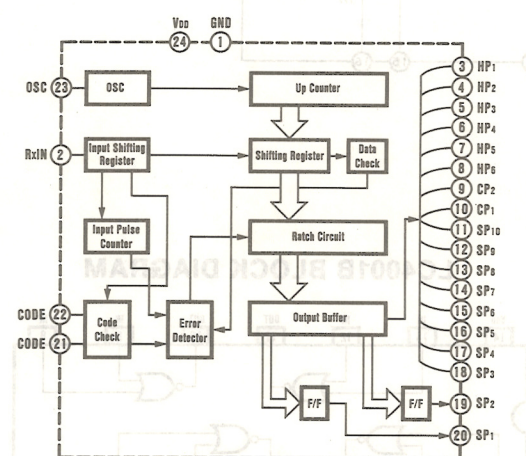


(Continued) **IC BLOCK DIAGRAM (Continued)**

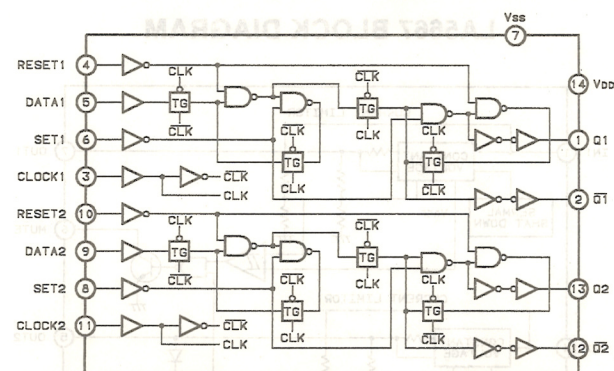
UPC1473HA BLOCK DIAGRAM **TC9148P BLOCK DIAGRAM**



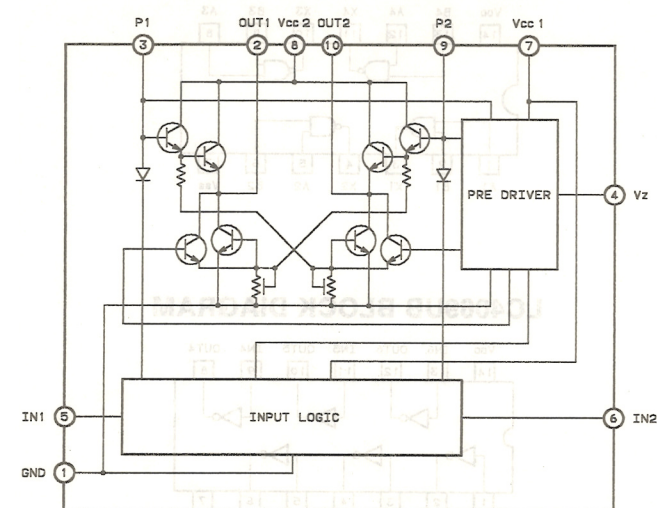
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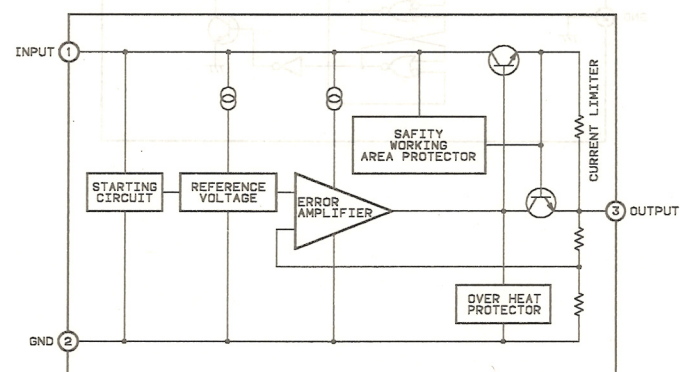
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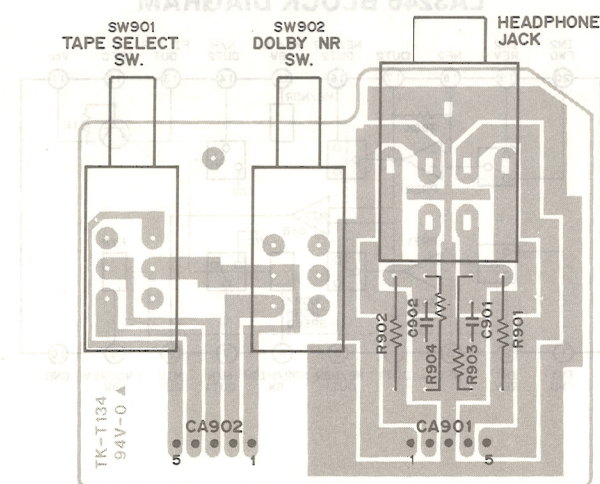
LB1641 BLOCK DIAGRAM



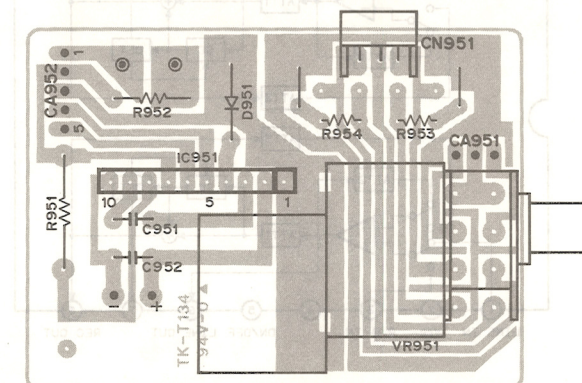
L78M05 BLOCK DIAGRAM



(Continued) **HEAD PHONE P.C.BOARD (BOTTOM VIEW)**

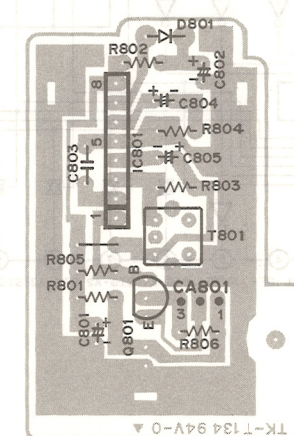


VOLUME P.C.BOARD (BOTTOM VIEW)

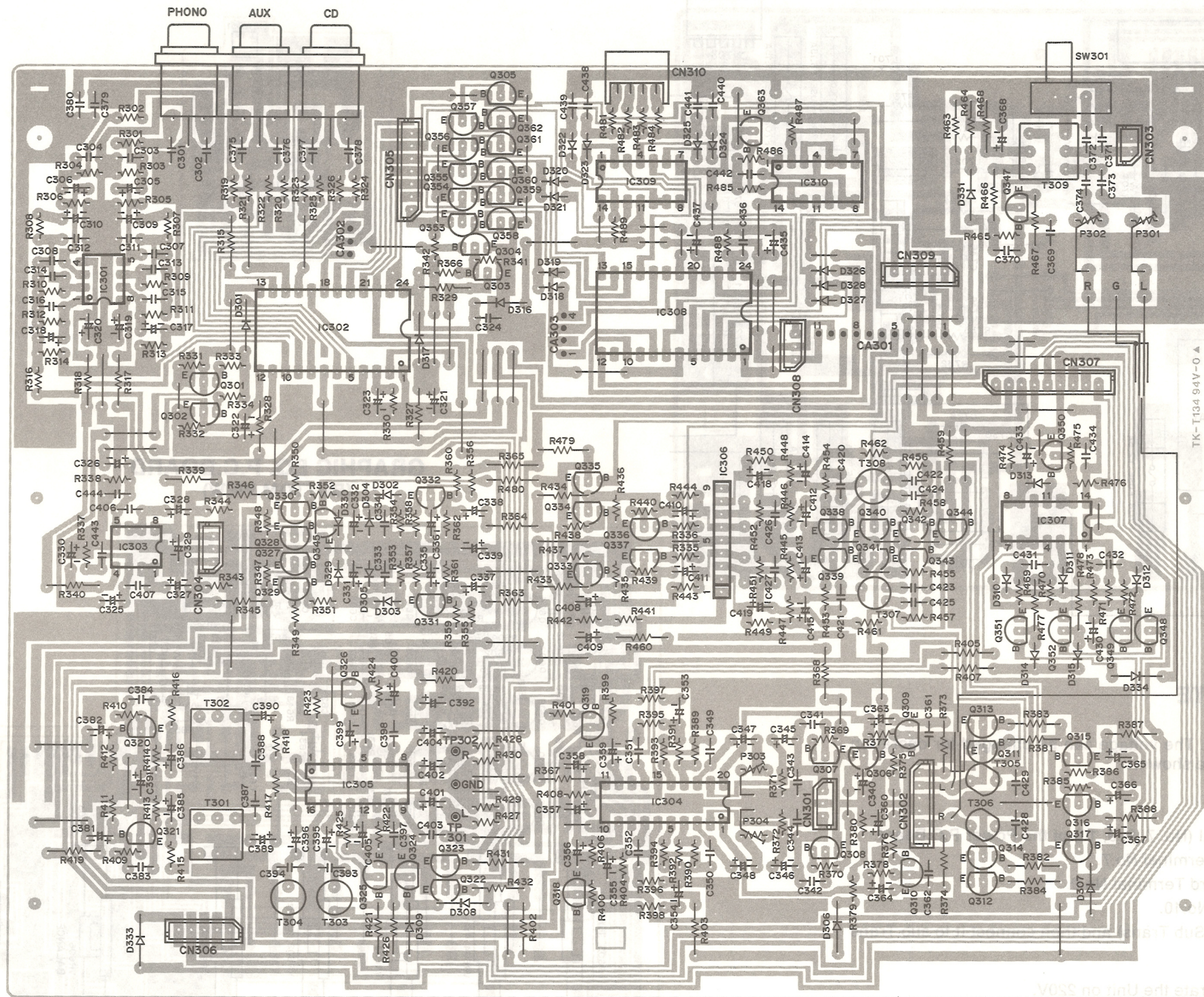


IC PIN NUMBERS DC VOLTAGES										
SYMBOL No.	DEVICE	1	2	3	4	5	6	7	8	9
IC951	LB1641	0V	0.5V	0.7V	0.3V	0V	0V	11.9V	11.9V	0.7V

REMOCON P.C.BOARD (BOTTOM VIEW)



MAIN PRINTED CIRCUIT BOARD (BOTTOM VIEW)



NOTES:
The IC305 (Dolby IC CXA1101P) on the Main P.C.B. Assy of TAC-M82 is changed to HA12136 from the lot number of 4,001. With this IC change, the Main P.C.B. Assy is changed as follows.

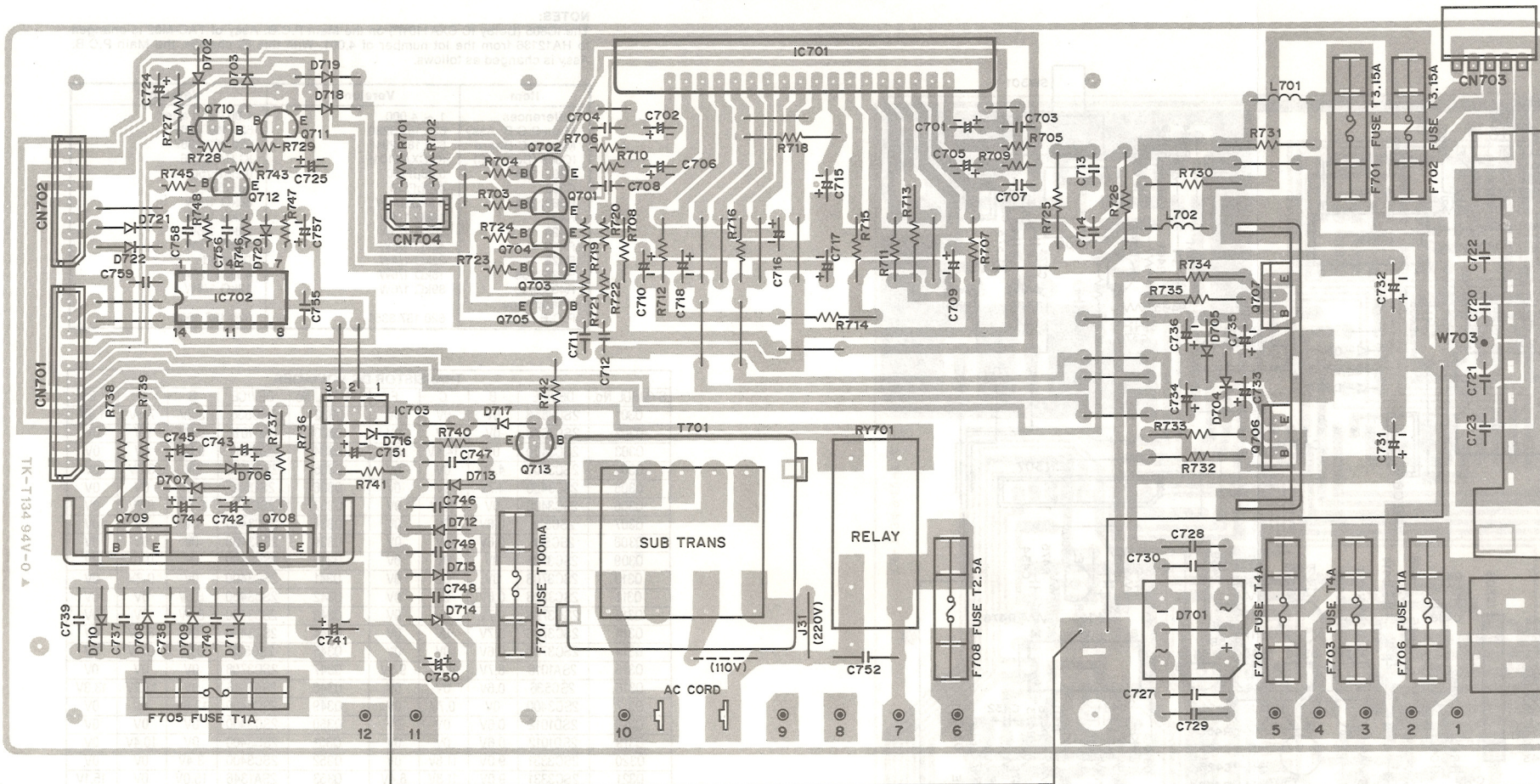
Item	Version 1	Version 2
Differences	1 ~ 4,000	4,001 and after
Main P.C.B. Assy	620 187 3290	620 192 4589
Main P.C.Board	620 187 2941	620 192 4367
IC305 (Dolby IC)	IC CXA1101P	IC HA12136
C397, 398	0.68μF/50	0.22μF/50
C399	470μF/10	1μF/50
R363, 364	6.8kΩ 1/4W	68kΩ 1/4W
R421	10kΩ 1/4W	22kΩ 1/4W
R423	10kΩ 1/6W	22kΩ 1/6W
R425	43kΩ 1/6W	18kΩ 1/6W
R426	22kΩ 1/4W	Deleted
R435, 436	18kΩ 1/6W	4.7kΩ 1/6W
R439, 440	39kΩ 1/6W	12kΩ 1/6W
Headphone		
P.C.B. Assy	620 187 3351	620 192 4602

TRANSISTOR DC VOLTAGES											
SYMBOL No.	DEVICE	B	C	E	SYMBOL No.	DEVICE	B	C	E		
Q301	2SC2878	0V	0V	0V	Q332	2SC536	2.2V	7.3V	1.6V		
Q302	2SC2878	0V	0V	0V	Q333	2SD1012	0.6V	0V	0V		
Q303	2SC3400	0V	14.4V	0V	Q334	2SD1012	0.6V	0V	0V		
Q304	2SC3400	4.7V	0V	0V	Q335	2SC3400	0V	3.6V	0V		
Q305	2SC3400	4.7V	0V	0V	Q336	2SC536	0.6V	0V	0V		
Q306	2SC3400	0V	4.9V	0V	Q337	2SC536	0.6V	0.2V	0V		
Q307	2SC536	0.6V	0V	0V	Q338	2SC3400	0V	0V	0V		
Q308	2SC536	0.6V	0V	0V	Q339	2SC3400	0V	0V	0V		
Q309	2SC3708	0V	0V	0V	Q340	2SC3400	0V	0.1V	0V		
Q310	2SC3708	0V	0V	0V	Q341	2SC3400	0V	0.2V	0V		
Q311	2SC3708	0.6V	0V	0V	Q342	2SC3400	8.6V	0V	0V		
Q312	2SC3708	0.7V	0V	0V	Q343	2SC3400	8.4V	0V	0V		
Q313	2SC3708	0.7V	0V	0V	Q344	2SC3400	0V	8.5V	0V		
Q314	2SC3708	0.6V	0V	0V	Q345	2SC536	0.6V	0.4V	0V		
Q315	2SA1016	8.7V	9.4V	9.5V	Q347	2SC3708	0V	0V	0V		
Q316	2SC536	0.6V	0V	0V	Q348	2SA1346	0V	13.2V	13.3V		
Q317	2SC3400	0V	0.7V	0V	Q349	2SC3400	12.6V	0V	0V		
Q318	2SD1012	0.6V	0V	0V	Q350	2SC3400	0V	0V	0V		
Q319	2SD1012	0.6V	0V	0V	Q351	2SC3400	0V	10.4V	0V		
Q320	2SC3331	9.0V	11.8V	0V	Q352	2SC3400	3.4V	0V	0V		
Q321	2SC3331	9.0V	11.8V	8.4V	Q353	2SA1346	15.0V	0V	15.1V		
Q322	2SD1012	0.6V	0V	0V	Q354	2SA1346	15.0V	0V	15.1V		
Q323	2SD1012	0.6V	0V	0V	Q355	2SA1346	15.0V	0V	15.1V		
Q324	2SC3400	0V	0V	0V	Q356	2SA1346	15.0V	0V	15.1V		
Q325	2SC536	0V	6.3V	0V	Q357	2SA1346	15.0V	13.6V	15.1V		
Q326	2SC3400	0V	6.2V	0V	Q358	2SC3400	0V	15.0V	0V		
Q327	2SC536	0.3V	0V	0V	Q359	2SC3400	0V	15.0V	0V		
Q328	2SC536	0.3V	0V	0V	Q360	2SC3400	0V	15.1V	0V		
Q329	2SC536	0.2V	12.9V	0.3V	Q361	2SC3400	0V	15.0V	0V		
Q330	2SC536	0V	12.9V	0.1V	Q362	2SC3400	0V	15.0V	0V		
Q331	2SC536	2.3V	7.2V	1.7V	Q363	2SC3400	4.8V	0V	0V		

IC PIN NUMBERS DC VOLTAGES																					
SYMBOL No.	DEVICE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
IC301	LA6458	0V	0V	0V	-15.1V	0V	0V	0V	14.8V												
IC302	TC9152P	0V	14.4V	0V	0V	0V	0V	0V	0V	0V	0V	0V	-15.9V	0V	0V	0.1V	0V	0V	0V	13.5V	0V
		21	22	23	24																
		0V	0V	0V	14.4V																
IC303	LA6458	0V	0V	0V	-15.1V	0V	0V	0V	14.9V												
IC304	LA3246	0V	0V	0.5V	5.2V	5.2V	0V	0.5V	5.1V	7.3V	0V	12.0V	11.9V	11.2V	0.4V	7.2V	4.9V	5.0V	0.5V	0V	0V
IC305	CXA1101P	6.4V	12.6V	6.4V	6.4V	6.2V	6.6V	0.3V	6.5V	6.5V	0.4V	6.6V	6.3V	1.2V	6.4V	0V	6.4V				

IC PIN NUMBERS DC VOLTAGES																					
SYMBOL No.	DEVICE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
IC306	LA6462S	12.7V	7.0V	7.0V	6.8V	0V	6.8V	6.9V	6.9V	12.7V											
IC307	LC4001B	0V	0V	13.2V	13.1V	0V	0V	0V	12.7V	12.7V	0V	13.2V	0.2V	0.1V	13.2V						
IC308	TC9150P	0V	0V	0V	0V	0V	0V	0V	0V	0V	0V	0V	0V	0V	0V	0V	0V	0V	0V	0V	
		21	22	23	24																
		0.6V	0V	2.4V	4.9V																
IC309	LC4069U	0V	4.9V	0V	3.5V	0V	4.9V	0V	0V	4.9V	4.9V	0V	0V	4.9V	4.9V						
IC310	LC4011B	4.4V	0V	4.9V	0V	4.9V	4.9V	0V	0V	0V	4.8V	0V	4.8V	4.8V	4.9V						

**POWER PRINTED CIRCUIT BOARD
(BOTTOM VIEW)**



IMPORTANT NOTE

The Unit has been Factory-adjusted for operation on 220V AC. The voltage can be changed for operation on 110V AC by making the following changes on the Unit inside shown.

1. Remove the AC plug from the wall outlet.
2. Remove the screws securing the cover.
3. Disconnect the Power Trans lead from Wire Wrap Terminal (No. 7, 8, 9, 10) of the Power P.C.Board.
4. Connect the Gray and Orange leads to Power P.C.Board Terminal No.7.
5. Connect the Yellow and Black leads to the Power P.C.Board Terminal No.9.
6. Connect the Violet lead to the Power P.C.Board Terminal No.10.
7. Disconnect Jumper lead J31 from Power P.C.Board (T701 Sub Trans) and then connect it to sub Trans 110V Terminal.

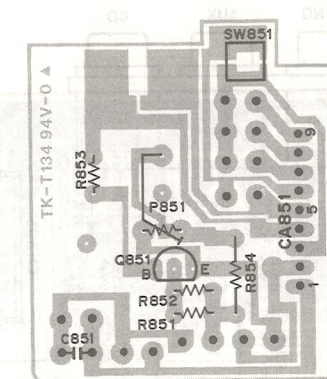
The Unit is now ready 110V operation. DO NOT attempt to operate the Unit on 220V.

IC PIN NUMBERS DC VOLTAGES																	
SYMBOL No.	DEVICE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
IC701	STK4152	-0.2V	-0.2V	0V	-31.3V	-1.3V	0V	-33.3V	-34.0V	-34.5V	0V	34.4V	32.7V	0V	-34.4V	-1.3V	0V
IC702	LC4913	4.7V	0V	0V	0V	0V	0V	0V	0V	0V	0V	0V	0V	0V	0V	0V	-0.1V
IC703	L78M05	9.7V	0V	4.9V													

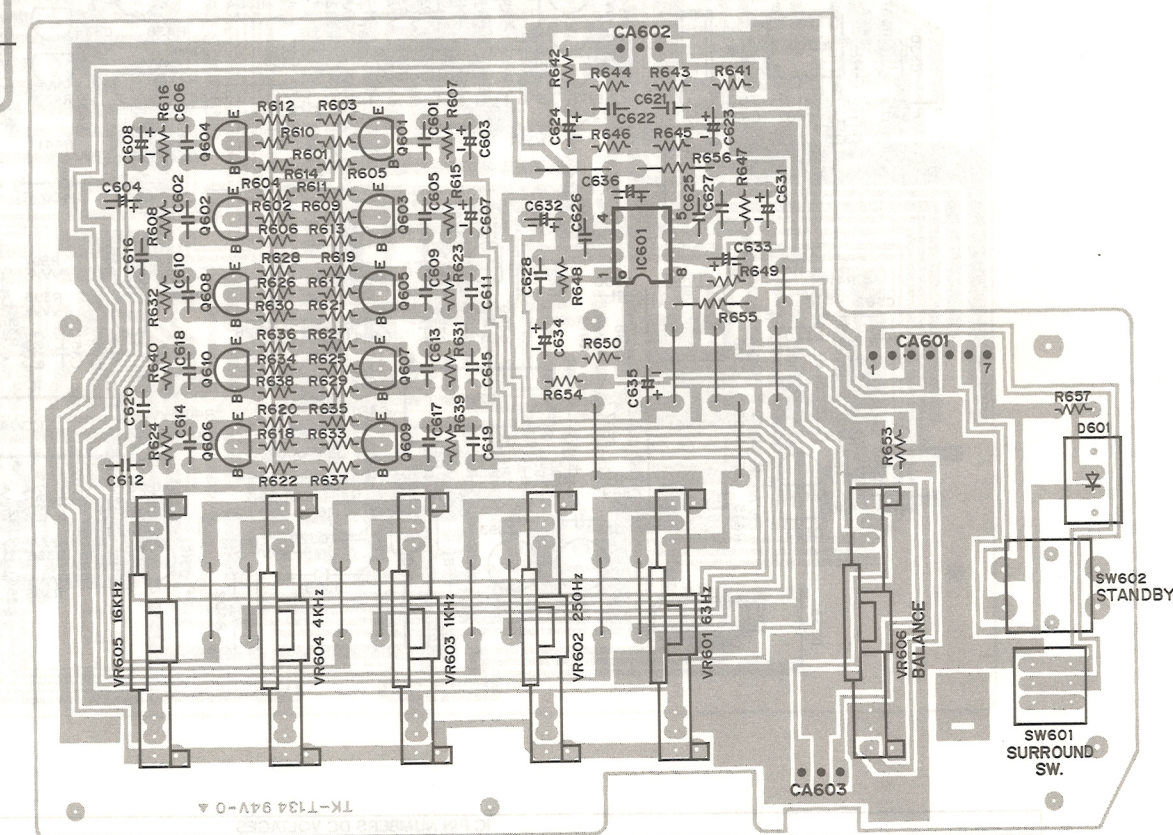
TRANSISTOR DC VOLTAGES											
SYMBOL No.	DEVICE	B	C	E	SYMBOL No.	DEVICE	B	C	E	SYMBOL No.	DEVICE
Q701	2SD1012	0V	0V	0V	Q706	2SD1913	16.4V	31.3V	15.6V	Q711	2SC536
Q702	2SD1012	0V	0V	0V	Q707	2SB1274	-16.5V	-32.1V	-15.9V	Q712	2SC536
Q703	2SC536	0.7V	0V	0V	Q708	2SA1913	13.9V	20.7V	13.3V	Q713	2SD1012
Q704	2SC536	0.7V	0V	0V	Q709	2SA1913	12.4V	20.6V	12.1V		
Q705	2SA1346	0V	13.3V	13.3V	Q710	2SA608	12.8V	0V	13.0V		

TRANSISTOR DC VOLTAGES											
SYMBOL No.	DEVICE	B	C	E	SYMBOL No.	DEVICE	B	C	E	SYMBOL No.	DEVICE
Q601	2SC536	-1.0V	13.1V	-1.6V	Q606	2SC536	-0.2V	13.1V	-0.8V		
Q602	2SC536	-1.0V	13.1V	-1.6V	Q607	2SC536	-0.2V	13.1V	-0.8V		
Q603	2SC536	-0.7V	13.1V	-1.3V	Q608	2SC536	-0.2V	13.1V	-0.8V		
Q604	2SC536	-0.7V	13.1V	-1.3V	Q609	2SC536	-0.1V	13.1V	-0.7V		
Q605	2SC536	-0.2V	13.1V	-0.8V	Q610	2SC536	-0.1V	13.1V	-0.7V		

**MECHA P.C.BOARD
(BOTTOM VIEW)**

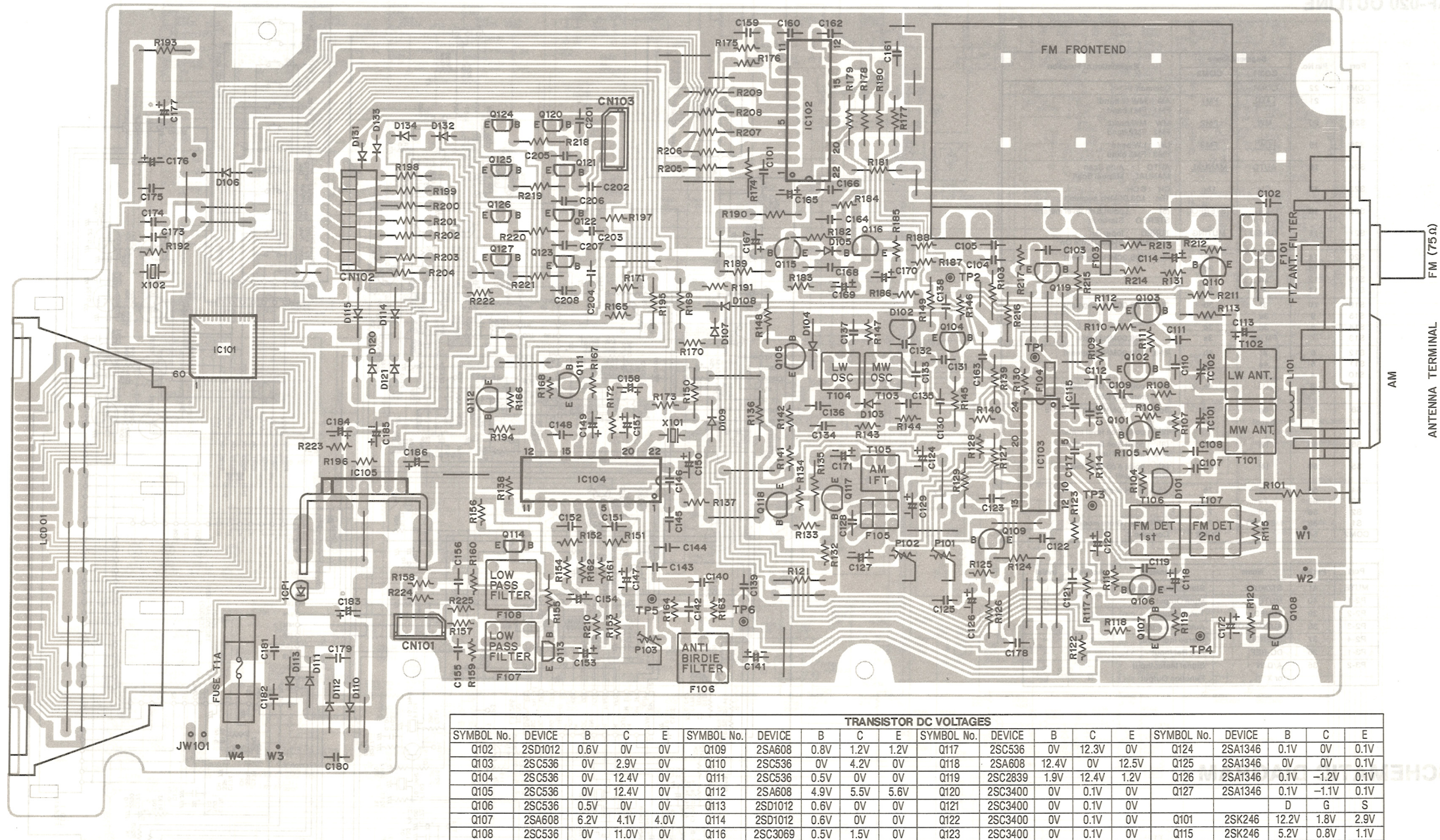


**GRAPHIC EQ. P.C.BOARD
(BOTTOM VIEW)**



IC PIN NUMBERS DC VOLTAGES							
SYMBOL No.	DEVICE	1	2	3	4	5	6
IC601	LA6458D	0V	0V	0V	-13.9V	0V	0V

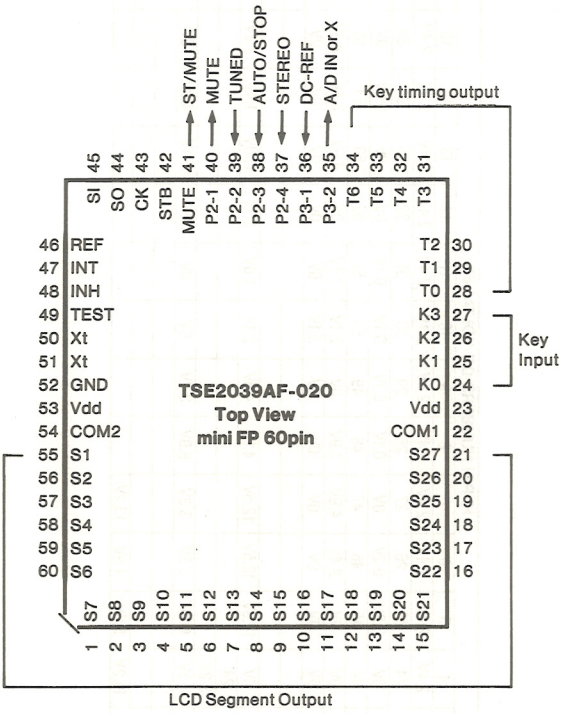
TUNER PRINTED CIRCUIT BOARD (BOTTOM VIEW)



TRANSISTOR DC VOLTAGES														
SYMBOL No.	DEVICE	B	C	E	SYMBOL No.	DEVICE	B	C	E	SYMBOL No.	DEVICE	B	C	E
Q102	2SD1012	0.6V	0V	0V	Q109	2SA608	0.8V	1.2V	1.2V	Q117	2SC536	0V	12.3V	0V
Q103	2SC536	0V	2.9V	0V	Q110	2SC536	0V	4.2V	0V	Q118	2SA608	12.4V	0V	12.5V
Q104	2SC536	0V	12.4V	0V	Q111	2SC536	0.5V	0V	0V	Q119	2SC2839	1.9V	12.4V	1.2V
Q105	2SC536	0V	12.4V	0V	Q112	2SA608	4.9V	5.5V	5.6V	Q120	2SC3400	0V	0.1V	0V
Q106	2SC536	0.5V	0V	0V	Q113	2SD1012	0.6V	0V	0V	Q121	2SC3400	0V	0.1V	0V
Q107	2SA608	6.2V	4.1V	4.0V	Q114	2SD1012	0.6V	0V	0V	Q122	2SC3400	0V	0.1V	0V
Q108	2SC536	0V	11.0V	0V	Q116	2SC3069	0.5V	1.5V	0V	Q123	2SC3400	0V	0.1V	0V
										Q101	2SK246	12.2V	1.8V	2.9V
										Q115	2SK246	5.2V	0.8V	1.1V

CPU PORT DESIGNATIONS (TSE 2039AF-020)

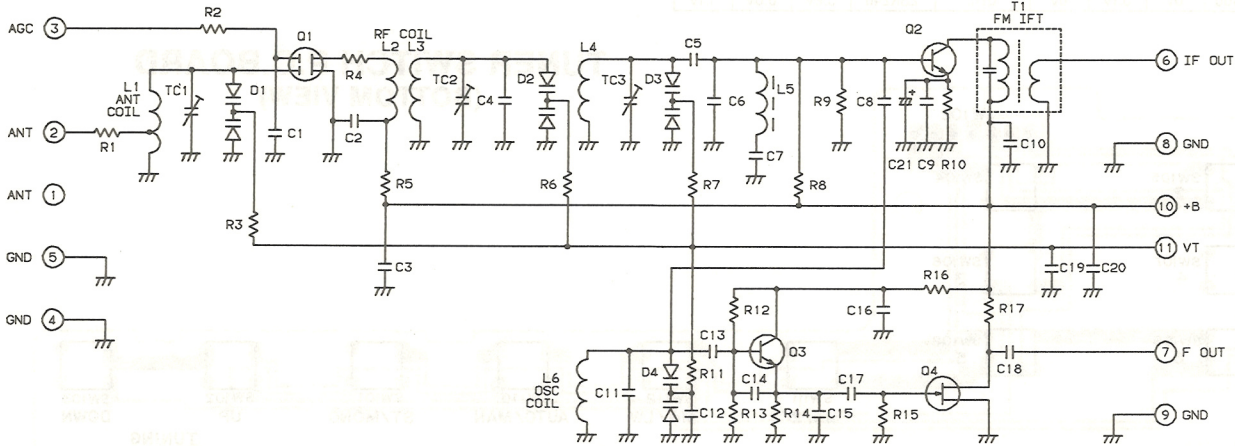
TSE 2039AF-020 OUTLINE



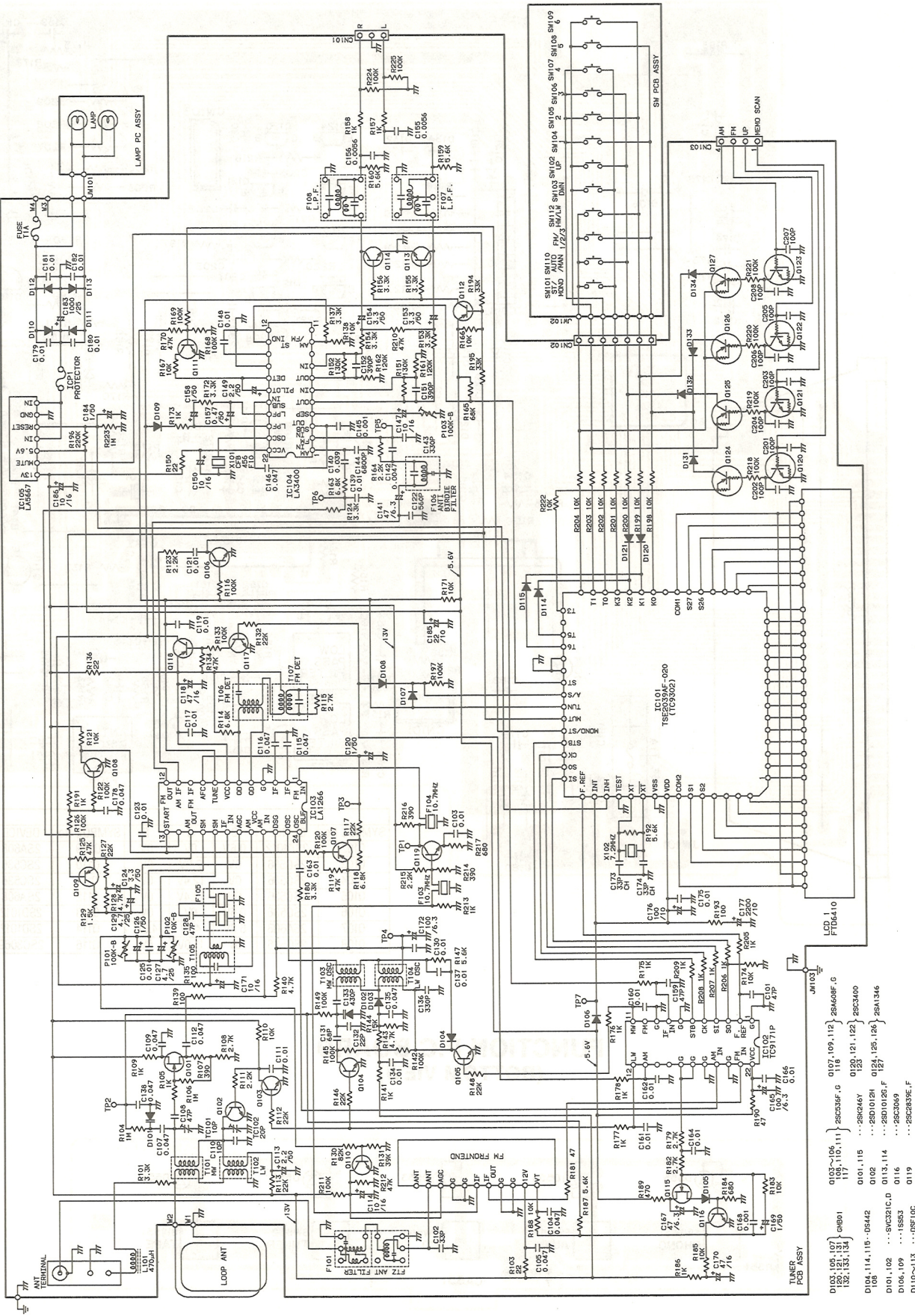
Port	Pin No.	Segment Name		Explanation of Function
		COM1	COM2	
COM1	22	COM1	-	Common 1
S27	21	AM	FM1	AM : MW (2 band) FM1 : FM1 band
S26	20	MW	FM2	MW : MW band FM2 : FM2 band
S25	19	LW	FM3	LW : LW band FM3 : FM3 band
S24	18	AUTO	MANUAL	AUTO : Auto Scan MANUAL : Manual Scan
S23	17	CH	1bc	CH : 6 CH 1bc : 108.00MHz segment
S22	16	[5]	STEREO	[5] : point 5 on level meter STEREO : Stereo In
S21	15	TUNED	MUTING	TUNED : Input On MUTING : Stereo/Mute On
S20	14	2f	2b	2f-a : 108.00MHz segment
S19	13	2e	2g	
S18	12	2d	2c	
S17	11	-	2a	
S16	10	3f	3b	3f-a : 108.00MHz segment
S15	9	3e	3g	
S14	8	3d	3c	
S13	7	FM dot	3a	: 108.00MHz mark
S12	6	4f	4b	4f-a : 108.00MHz segment
S11	5	4e	4g	
S10	4	4d	4c	
S9	3	[1]	4a	[1] : point 1 on level meter (normally ON)
S8	2	5g	5be	5g-f : 108.00MHz segment, 0/5
S7	1	5acdf	[2]	[2] : point 2 on level meter
S6	60	[3]	kHz	[3] : point 3 on level meter kHz : MW/LW unit
S5	59	[4]	MHz	[4] : point 4 on level meter MHz : FM unit
S4	58	7f	7b	75-a : 6 CH segment
S3	57	7e	7g	
S2	56	7d	7c	
S1	55	MEMORY	7a	MEMORY : Store mode
COM2	54	-	COM2	Common 2

Port	Pin No.	Name	Assignment	Active	Initial
MUTE	41	ST/MUTE	Stereo/Mute Output	L	L
P2-1	40	MUTE	Mute Output	L	H
P2-2	39	TUNED	Tuned Input	L	-
P2-3	38	AUTO/STOP	Auto/Stop Input	L	-
P2-4	37	STEREO	Stereo Ind. Input	L	-
P3-1	36	DC-REF	A/D Ref Input	-	-
P3-2	35	A/D IN or X	Signal Meter Input Function Output	H	L

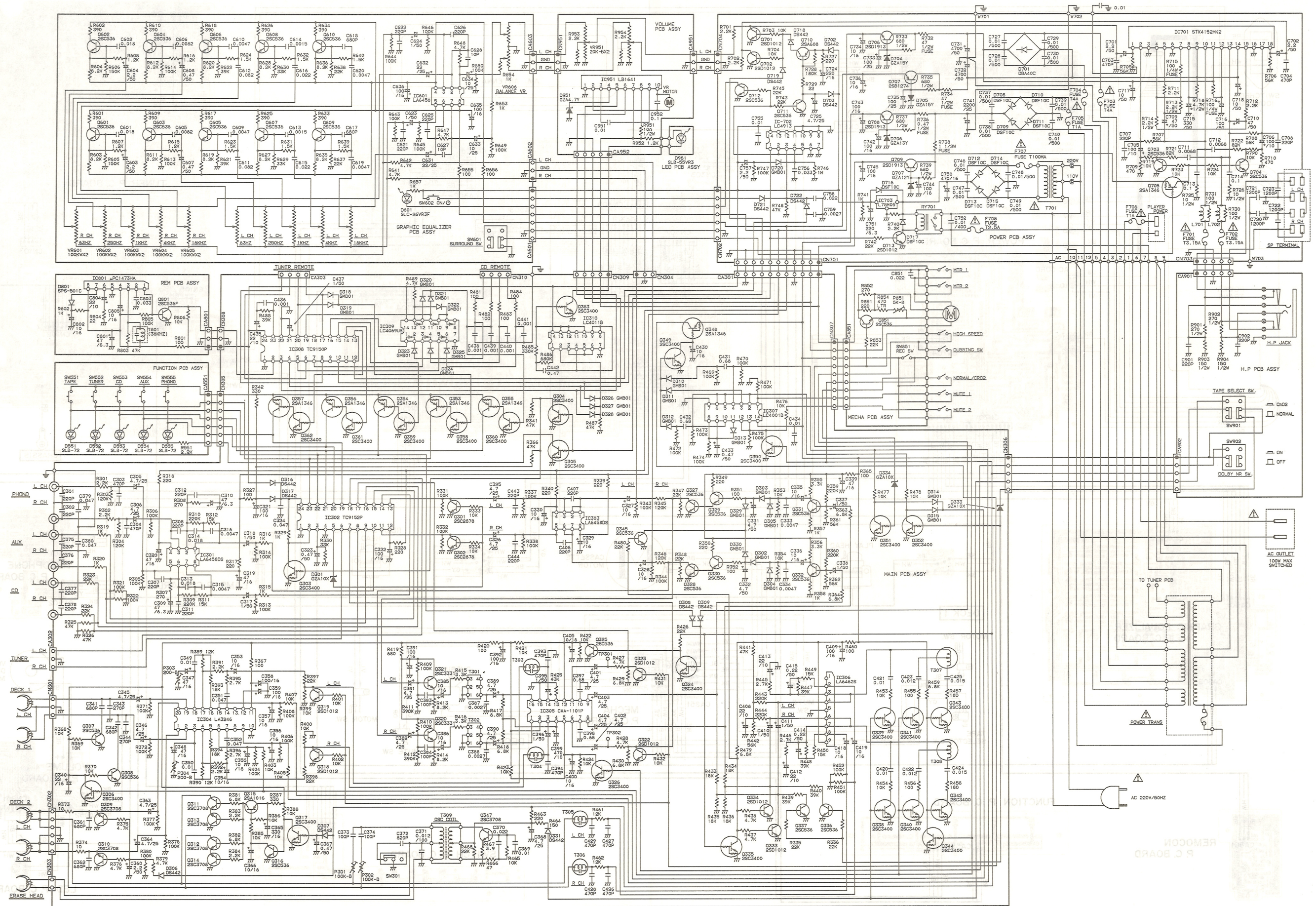
FM FRONT END SCHEMATIC DIAGRAM



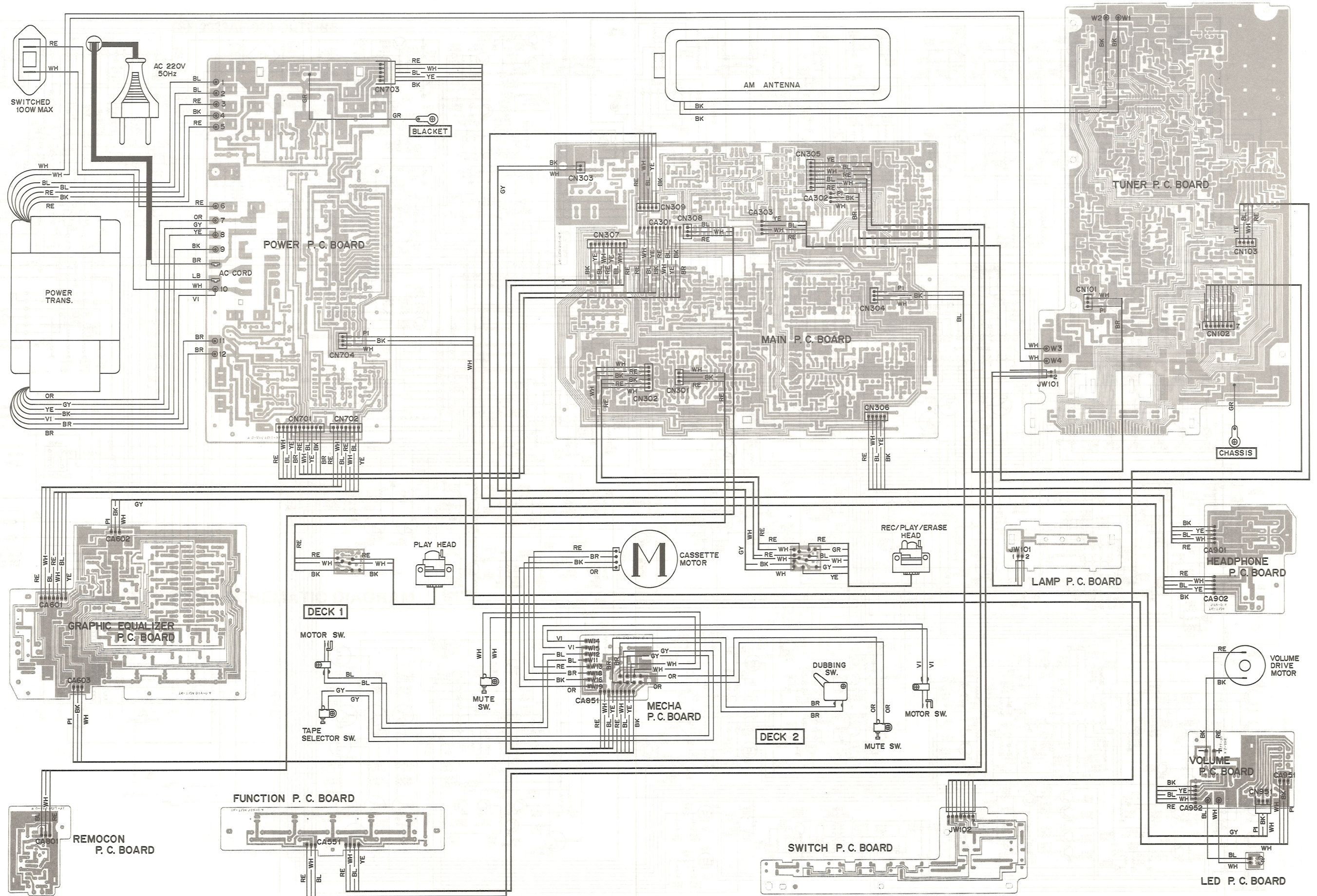
SCHEMATIC DIAGRAM (Tuner Section)



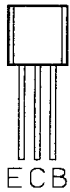



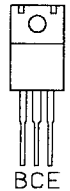







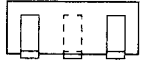
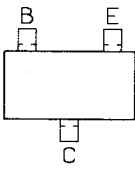
SCHEMATIC DIAGRAM (Main unit Section)



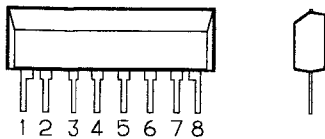
POINT TO POINT WIRING DIAGRAM



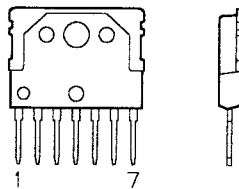
IC & TRANSISTOR LEAD IDENTIFICATION

TRANSISTOR	FRONT VIEW	BOTTOM VIEW	TRANSISTOR	FRONT VIEW	BOTTOM VIEW
2SA1016K 2SA608 2SC2878 2SC3069 2SC3331 2SC3708 2SC536 2SC930			2SA1346 2SC2839 2SC3400 2SD1012		
2SB1274 2SD1913			2SC2999		
2SK241			2SK246 2SK246		
2SA1179 2SD1048					
TERMINAL NAME					
<div style="display: flex; justify-content: space-between;"> <div> B → BASE C → COLLECTOR E → EMITTER </div> <div> S → SOURCE G → GATE D → DRAIN </div> </div>					

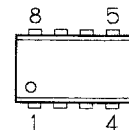
UPC1473HA FRONT/SIDE VIEWS



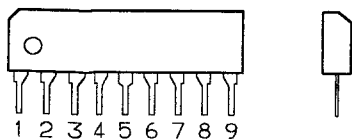
LA5667 FRONT/SIDE VIEWS



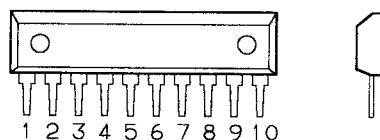
LA6458DS TOP VIEW



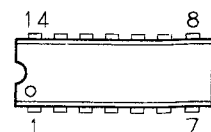
LA6462S FRONT/SIDE VIEWS



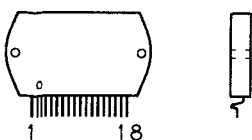
LB1641 FRONT/SIDE VIEWS



**LC4001B TOP VIEW
LC4011B TOP VIEW
LC4069UB TOP VIEW
LC4913 TOP VIEW**

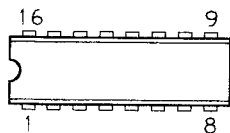


STK4152MK2 FRONT/SIDE VIEWS

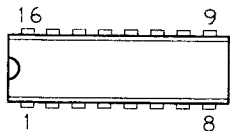


IC & TRANSISTOR LEAD IDENTIFICATION (Continued)

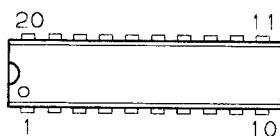
TC9148P TOP VIEW



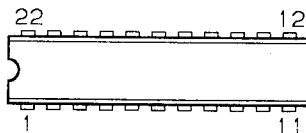
CXA1101P TOP VIEW



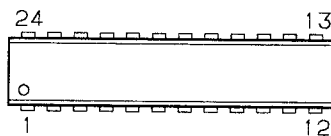
LA3246 TOP VIEW



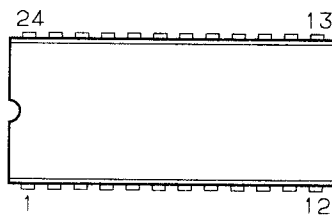
**LA3400 TOP VIEW
TC9171P TOP VIEW**



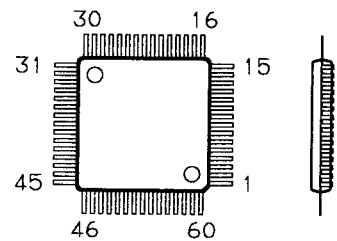
LA1266 TOP VIEW



**TC9150P TOP VIEW
TC9152P TOP VIEW**



TSE2039AF-020 TOP/SIDE VIEWS



L78M05 FRONT/SIDE VIEW

